THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

American Farming.

Mr. Editor,—The present sunshine and very pleasant season of leisure remind me of the promise which I partially made in my last, to take up the subject on the comparative difference between the pursuit of agriculture in this country and England. To do this, a person should have had experience in that line of life in the old country as well as a knowledge of the modes and customs in this, and the climates of both; and with these the writer believes he is tolerably conversant.

It is generally acknowledged that the difference in the price of labour between the two countries is the only drawback with which the farmer in this, has to contend. Now, in England, it is customary to calculate the value of things in the farming business by the sum paid for rent; thus, if a farm is well-situated and very near an excellent market, these advantages are said to be worth *half a rent* extra; and if it be well-watered, healthy, with a dry and early soil, in a good neighbourhood, well-fenced, with good dwellings and extensive homestall, it is put down as worth half a rent more, or double the value of the same quantity of land ill-situated and badly-circumstanced; and I know of no better mode of estimating the advantages to be derived from peculiar *circumstances* in this country. Well then, at what shall we fix the difference between the value of farm-labour in this country over that of England? shall we put it at once to three rents? Then all that we have to do is to show that the advantages peculiar to this country are equal to three times the rent paid in England, and then we start fair.

In the first place, rents in this country are not, on an average, one-half so high as they are in England—here is one rent. 2d, The forwardness of the seasons, by which the farmer is enabled to secure his crops, both hay and grain, so early as July, during long days and fine weather, often performing the labour of two days in one, with the advantage of immediately recropping his land on the removal of his first crops for the use of himself and his out-door stock in the coming winter, with a moral certainty of obtaining a season of sufficient length to bring them to full maturity, and after that to enjoy sufficient space to winter-fallow every acre of unemployed land during the fine weather of autumn—all this is cheap at another rent. 3d, Then the freedom from tythe, which although it is said to amount to a tenth only of the produce, might be safely put down at a fifth, for the clergy bear no part of the extra expense, labour of draining, fencing, manuring, clearing, or extra fallowing and improving, nor, although they carry off a tenth of the crop, do they ever return one-tenth of the seed with which to resow the land for the next year's crop, but take their share after it has been cut, bound, and made fit to carry at the expense of the farmer—thus carrying away a tenth of the farmer's labour as well as a tenth of the produce. And if to tythes we add church rates, Easter offerings, Christmas dues—all these, with other taxes and rates and duties which fall due every day of a man's life, in the shape of taxes upon houses, windows, horses, carriages, servants, roads, and *taxes upon these taxes*—all this is far too cheap at another rent. And after this come the indirect taxes, commencing with tea at 98 per cent. on the value, and tobacco and snuff at 600 per cent.; "with," as a writer observes, "taxes upon every article which enters into the mouth or covers the back or is placed under the foot, upon everything which is pleasant to see, hear, feel, smell, taste—upon warmth, light and locomotion, upon everything which comes from abroad or is grown at home, on the raw material and on every fresh value that is added to it by the industry of man—on the sauce which pampers a man's appetite and the drug which restores him to health—on the ermine which decorates the robe of the judge and the rope which hangs the criminal!—on the brass nails of the coffin and the ribbons of the bride; while the school-boy whips his taxed top and the beardless youth manages his taxed horse with a taxed bridle on a taxed road, the dying Englishman, pouring his medicines

which have paid 7 per cent. tax, into a silver spoon, which has paid 15 per cent., flings himself back upon his chintz bed, which has paid 20 per cent., and expires in the arms of a taxed apothecary who has paid an hundred pounds sterling for the privilege of practising his calling! and then, his whole property is immediately taxed from 2 to 10 per cent., large fees being demanded for burying him in consecrated ground, his virtues being handed down to posterity on taxed marble, and he is at length gathered to his fathers — to be taxed no more." Now, it may be safely left to any man's conscience to declare whether all this is not worth another rent. And after all this comes the poor's rate, which is as a millstone about the farmer's neck, and has dragged many a hard-working, industrious man to the alms-house!

Here then are four rents to start upon, and I know but of one item to place against all this, and that is, the higher rate of farm-labour: to be sure some articles of provisions are cheaper here than in England, while others are higher—butter, potatoes and vegetables generally; but even in the lower price of provisions the farmer has a gain upon what he *consumes*, balancing in a measure his loss upon what he *sells;* while the articles which he has to purchase are generally much lower than they are in England, such, for instance, as tea, coffee, sugar, foreign fruits, rice, soap, candles, salt, vinegar, spices, glass, nails, farming implements, most of the articles of domestic clothing and building materials; and if he indulges in the luxuries of tobacco, snuff, wine, spirits or beer, he will find a difference on some of these to the amount of two or three hundred per cent.

Now, in my estimation, the greatest drawback to a farmer in this country, is the innumerable and rapid growth of weeds, but in the hands of an intelligent and industrious man they are lessening every year, and when a better rotation of crops is adopted, their destruction will be certain, although it is admitted that great toil and vexation must first be encountered; but place against this the advantage of being able to raise the corn crop—which is, by the bye, of itself equal to almost half a rent — the use of the cradle-scythe and the horse-rake, implements not yet in general use in England, and the balance is very much in favour of this country.

But are the wages paid to farm-labourers higher than what are given to mechanics and artizans generally? say, for instance, to the men employed in large manufactories, sugar-houses, machine-shops, cotton and paper mills, &c.: if they are not and the complaint of agriculturists is just, then indeed it is a fact that agriculture will not pay for capital invested; and yet we see that the price of sugar is lower in this country than in England, with wages for the fabrication of it much higher; that building materials, bricks, lime, &c., are the same, while boots and shoes and domestic clothing are lower also, with higher wages paid for manufacturing; and then come the pay of mariners, miners, agents, book-keepers, &c., all higher than in England, and yet no complaint is made, and why? simply because they are exempt from taxation—and so are the farmers, after standing at about a third of the rent of land that is paid in England. So that, after viewing the subject on all sides, my opinion is, that farming in this country, in the hands of an intelligent man with a fair capital—and what man in trade expects to succeed without these requisites?—is more profitable than in England, with far less anxiety of mind and labour of body; and conclude with the testimony borne to this view of the subject by the late Mr. Geo. Walker, that he desired only to know the rate of wages for labour paid in any country, to be able to estimate its state of prosperity; when that is high, there is the greatest prosperity and the greatest sum of happiness, and these are always in exact proportion, the one to the other.

But it is said, innumerable instances have been known of persons commencing farming with scarcely a dollar as capital, becoming rich enough in a few years to purchase their farms — this is true, and speaks volumes in favour of the business of agriculture; and I have at the present moment two such men in my view. One of them began the world as a bound boy, and at the end of his term, married a young woman without a dollar, and commenced business by slaughtering an animal now and then and disposing of the meat at market; and dates his first success to a God-send in the shape of a flock of geese, which came down the Susquehanna on a block of ice and landed near his cottage. This person is now one of the very first men in that part of the country in point of property, intelligence, probity and high standing in society — but he enjoyed a noble capital in the capacities of himself and an invaluable helpmate, with a magnificent stock of health and industry, and ingenuity to turn everything which they handled into gold — a glorious capital to work upon, and far better than thousands of hard dollars.

There is another of these "fortunate men," as they are very improperly termed, residing near Wilmington, Del., who, about nine years ago, commenced farming upon shares the farm which he now owns; since which he has, by his industry and his wife's *capital*, which consisted *only* in the art of *making and saving* money, the first, by attending market, and the last by frugality and indus-

try—the arts of selling as well as buying—been enabled to rebuild his house and barn, besides constructing and improving every other erection on his premises, which were proverbially bad when he came to the farm, as also to purchase some lots of land in the marshes in the neighbourhood! but the last time I called on him, I found him pulling with his own hands the weeds that had sprung up in a field of potatoes adjoining the farm-house; while his wife had just returned from market, bringing with her $40, received for vegetables, fruit, &c., which she had taken herself to market that morning and sold; and that accounts for all. Now, it is quite a mistake to say, these men began the world without capital; but it is equally erroneous to suppose that farming, any more than any other business, can ever succeed without capital of some sort—it is not in the nature of things, and ought not to be expected; but with it, I contend that if the business of agriculture be as well managed, it will pay as good a return for capital invested, as any legitimate business whatever, besides insuring a peace of mind which "passeth all understanding."

VIR.

1st Nov. 1841.

Reading.

OF all the amusements which can possibly be imagined for a hard-working man, after his daily toil, or in its intervals, there is nothing like reading an interesting book, supposing him to have a taste for it, and supposing him to have the book to read. It calls for no bodily exertion, of which he has already had enough, or, perhaps, too much. It relieves his home of its dullness and sameness. It transports him into a livelier, and gayer, and more diversified and interesting scene; and while he enjoys himself there, he may forget the evils of the present moment, fully as much as if he were *ever so drunk*, with the great advantage of finding himself the next day with his money in his pocket, or, at least, laid out in real necessaries and comforts for himself and his family,—and without a head-ache. Nay, it accompanies him to his next day's work; and, if the book he has been reading be anything above the very idlest and lightest, gives him something to think of, besides the mere mechanical drudgery of his every-day occupation — something he can enjoy while absent, and look forward with pleasure to. If I were to pray for a taste which should stand me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be, a taste for reading.—*Sir J. Herschel.*

Winter Provender.

WE think it very probable that owing to the length of the last winter, and the drought which occurred during the summer, that there will be in many parts of our country a scarcity of provender for cattle, and consequently, that much suffering is in store for those poor creatures. Impressed with this belief, we deem it due to our readers to admonish them thus early, to take measures to cut and preserve their corn-stalks so soon as they shall have pulled the ears off. If it be objected to the stalks as food, that their nutritive properties have been greatly exhausted, we are willing to admit the truth of the objection, to a considerable extent; but while we make this admission, we maintain, that there is still a sufficient quantity of aliment remaining in them to render their being cut and taken care of an object. Stalks cut at the time when the corn has just passed through the process of glazing, if put away carefully, and cut into feed of suitable lengths, and steamed, are, in our opinion, equal to most kinds of hay for farm or milch cattle. If not cut until the ear is dried upon the stalk, we are aware that much of its properties of nutrition are transferred from the stalk to the grain. Still, however, there is enough left to emphatically entitle them to be ranked, in seasons of scarcity, among the provender of the farm, and we boldly venture upon the assertion, that if a bushel of the stalks cut into pieces of an inch in length, either *soaked* in boiling water, or *steamed*, with a slight sprinkling of salt, were given three times a day to each head of cattle, that they would maintain the animals in good keeping condition.

We know a gentleman who tried the experiment upon a herd of 50 or 60 head of cattle a few years ago, and brought them through the winter upon steamed corn-stalks and ruta baga, fully as well as he had done years theretofore, upon the best timothy hay and ruta baga, his usual winter food.

In recommending corn-stalks for food, we do not wish to be misunderstood. It is not our object to point them out as a *main reliance*, but merely as a *resource* within the possession of all farmers, which they should not omit in a case of necessity to avail themselves of.

To milch cows we would add something to the stalks, in the shape of chop, meal, or roots, believing that the process of secreting milk cannot be carried on, unless their food be generous.—*Am. Far.*

FEW could possibly give themselves up to sleep, if they had no hope of waking again; a night to which there should be no morning, would be a thought of unmingled terror.

For the Farmers' Cabinet.

"The Age of Improvement."

In this age of inquiry and improvement, it is gratifying to observe, that not to one class of men only, or to men of particular vocations are the advantages of every day's discoveries offered, but that avenues are every where presented to every one of every calling, who is disposed to avail himself of the learning, the experience, the reflection and the invention of those who have lived before him, as well as of those who, like himself, are now active on the theatre of life. Man is to eat his bread in the sweat of his face, and happy is it for him that it is so—that necessity compels him to labour: he is so constituted, that industry is one of the means of his enjoyment, while idleness is the parent of every discomfort, as well as the bane of every virtue.

Euclid, the great father of geometry, told one of the kings of Egypt, that there was no royal road to learning: he, forsooth, would have had a royal vantage ground from which to start in his career, that he might gain the summit without the toil of ascent. But the philosopher assured him there was no royal road marked out for him. Laborious thought and patient investigation could not be dispensed with if he would follow the investigations of his teacher, and master the difficulties of ancient philosophy. Even so now, he who would be a proficient in his calling, must acquaint himself with all its improvements, and he must search for them in conversation, in travel, in books, and in deep reflection.

Time is money.—What an invaluable and inexhaustible store-house then, is thrown open to the business-man who is in search of proficiency, by the multitude and cheapness and varied character of books, whose pages give him, in a comparatively short time, all that is known by all men, on the subject he would be instructed in! Cowper said of commerce,

> "It gives the poles the produce of the sun,
> And knits unsocial climates into one."

So, the invention of letters gave the "Potentiality," as Dr. Johnson might say, of information to the whole world: and the wonderful facilities which steam has given to the printing-press in our own day, have thrown broadcast over the whole intellectual domain, not only the thoughts of the wise and the virtuous, but have made common stock of all knowledge calculated to increase the produce of labour, and thence to multiply to an incalculable extent the substantial comforts of life. If we look back, and compare the dwellings, the farming implements, the household furniture and the clothing of our Saxon ancestors with our own, we shall feel, that in respect to these, we are indeed dwelling in a "south land," and possessing what might perhaps be termed the perfection of animal enjoyment. And what has produced this change? Alfred exercised that high attribute of mind which has been given us for noble purposes—he THOUGHT, and made common stock of what he knew: and the whole world is now garnering a noble harvest from the seed which that great man scattered abroad. If Luther and Calvin and other kindred spirits of their day had been inactive, or if, after having assiduously laboured to place the foundation stones of the reformation on what they conceived to be truth, the people had till now refused to build upon them, what would have been the character of this age? and where the rational principles of liberty which William Penn promulgated in his trial at the Old Bailey, and gave a practical illustration of in his government here, and which have been again, and still further exemplified in our own Federal Constitution? The printing-press would have needed no *steam* to hasten its operations, for the common mind would still have been shrouded in a darkness, which even steam could not dissipate.

It is instructive as well as delightful, to trace this march of mind, down through the generations that have preceded us, and connect it, as we can not fail to do, with the wonderful, yet natural results, which are every day offering themselves to our acceptance. "Knowledge," as Lord Bacon declared, "is power." It is not the imaginary lever of Archimedes, but it is the substantive machinery, which by day and by night is operating upon the great mass of mind, and continually producing the results to which we have been glancing. Where this lever—this moving power operates in a right direction upon the mind, who can calculate its happy influence upon the outward comforts of man? And when to this shall be added the unfaltering tendency of our holy religion to meliorate and purify and adorn all that comes under the operation of its spirit, how reasonable is the hope, that the last ages of the world shall be more wise, more virtuous, and consequently more happy, than any which have preceded them! And let no one, however humble, conclude that his individual weight cannot increase the momentum of that intellectual lever, to which we have alluded, and which, in fact, is every day giving evidence of an influence that is acknowledged in all departments of society. While thousands are expended in contesting the patent-right for the manufacture of a pin's head, and tens of thousands for the discovery of a continent, which none could inhabit if every boundary were ascertained—or for a passage at the very pole, which never could be used

if penetrated—let no one indulge his indolence by concluding, that there are not an infinitude of laudable objects, towards the promotion of which it is his duty, as a good citizen, to lend the energies of his mind. From a multiplication of the blades of grass, which grow in a man's field,—and from the initiatory process, by which the child is taught his alphabet, to the construction of the engine, whose effect is only limited by the strength of its materials, and of the glasses whose magnifying powers reduce the "sun, the moon and the stars," to close observation, there is surely, a field for labour, broad enough for all to enter, and so needing the cultivation of all, that none can excuse himself from his share of the common duty. The farmer at his plough, and the mechanic at his trade, may more and more be confirmed in the persuasion, that as the mind is properly exercised the comforts of the body are increased, and as we discharge our duties, many of which are apart from ourselves, we insure the greatest amount of life's enjoyments. Z. Y.

THE HEART.—The wisdom of the Creator, says a distinguished anatomist, is in nothing seen more gloriously than in the heart. And how well does it perform its office! An anatomist who understood its structure, might say beforehand that it would play; but from the complexity of its mechanism and the delicacy of many of its parts, he must be apprehensive that it would always be liable to derangement and that it would soon work itself out. Yet does this wonderful machine go on night and day, for eighty years together, at the rate of a hundred thousand strokes every twenty-four hours, having at every stroke a great resistance to overcome; and it continues this action for this length of time without disorder and weariness. That it should continue this action for this length of time without disorder, is wonderful: that it should be capable of continuing it without weariness, is still more astonishing. Rest would have been incompatible with its functions. While it slept the whole machinery must have stopped, and the animal inevitably perish. It was necessary that it should be made capable of working for ever, without the cessation of a moment—without the least degree of weariness. It is so made; and the *power* of the Creator in so constructing it, can in nothing be exceeded but in His *wisdom*.

How many contentions have been hushed; how many divided families have been united; how many characters have been reformed, by injunctions uttered from the sick-couch or the pillow of death!

Keep Your Land Dry.

THE importance of draining is not duly appreciated, nor is its practice well understood, among us. Although water is indispensable to vegetation, too much of it is as hurtful as too little. It is necessary to the germination of the seed, to the decomposition of the vegetable matter in the soil—to the transmission of the food from the soil to the plant—to its circulation there, and to the maturity of the product. All these useful purposes are defeated, where water remains in the soil to excess—the seed rots, the vegetable matter which should serve as the food of the crop, remains insoluble, in consequence of the absence of heat and air, which the water excludes; or, if the seed grows, the plant is sickly, for want of its proper food, and there is consequently a virtual failure in the harvest. It is not from the surface only that we are to determine whether land is sufficiently dry to support a healthy vegetation; but we are to examine the surface stratum, into which the roots of the plants penetrate; and from which they draw their food. If this is habitually wet—if it grows marshy plants—if water will collect in a hole sunk fifteen inches below the surface—the land is too wet for cultivated crops, and means should be adopted to render it more dry. From my partial acquaintance with this country, I feel assured that much of your best land is rendered unfit for tillage, or the growth of the finer grasses, by reason of the excess of water, which passes or reposes upon the subsoil, unnoticed by the cultivator. These lands are denominated cold and sour, and they truly are so. Cold and sour lands are invariably wet lands below, if not upon the surface. But if the superfluous water were judiciously conducted off by sufficient under-drains, these lands would be rendered warm and sweet, and highly productive, and the outlay would be repaid by the increased value of two or three of the first crops. Wet lands are generally rich lands, abounding in vegetable matters, which water has preserved from decomposition, but which readily becomes the food of plants, when the water is drawn off. Let me imagine a case, which I am sure will be found to exist in many parts of the country. There is a slope of a little hill, half a mile in extent, terminating in a flat forty rods wide, through which a brook meanders. The soil on this slope and in this flat, is of a light, porous quality, six to twelve inches deep, reposing on a subsoil impervious to water, as clay, rock or hardpan. By *soil*, I mean the upper stratum, in which vegetable matters are blended with earthy materials, and which constitutes the true pasture of plants. Near the top of this slope, all along on a horizontal

level, or perhaps lower down, spouts or springs burst through the subsoil, a thing very common in hilly districts, the waters from which, finding an easy passage *through* the loose soil, spread and run down the slope, and *upon the subsoil* and through the flat, till they find their level in the brook. A thermometer plunged down to the subsoil, will indicate, at midsummer, a temperature probably not greater than 60°, whereas to grow and mature many of our best farm crops, we require a heat in the soil of 70° or 80°. How shall we remedy this evil, and render this land profitable to the occupant? Simply by making an under-drain or drains in a gently inclining direction, a little below these spouts or springs, and, if practicable, somewhat into the subsoil. These will catch and conduct off the spouting waters, and by laying the lower plane dry and permeable to heat and air, develope all its natural powers of fertility.

I will suppose another case—that of a flat surface, underlaid by an impervious subsoil. This is rendered unproductive, or difficult to manage, by stagnant waters. The rain and snow waters, penetrating the soil, are arrested in their downward passage, by the subsoil, which not having slope to pass them off, they here remain, and stagnate, and putrefy, alike prejudicial to vegetable and animal health. The mode of draining such grounds, and of rendering them productive and of easy management, is, first to surround the field with a good under-drain, and to construct a sufficient open drain from the outlay to carry off the waters. Then with the plough, throw the land into ridges of twenty to thirty feet in breadth, according to the tenacity of the soil, in the direction of the slope, and sink an under-drain in each of the furrows between the ridges, terminating them in the lower cross drain. The materials of the under-drains, which are generally stones, should be laid so low as to admit of the free passage of the plough over them. The superfluous water, by the laws of gravitation, settles into these drains and passes off, and the soil becomes dry, manageable and productive. An acquaintance called upon a Scotch farmer whose farm had been under-drained in this way, and being informed that the improvement cost sixteen dollars an acre, tile having been used, remarked that it was a costly improvement. "Yes" was the farmer's reply; "but it costs a deal mair *not to do it*," which he illustrated by pointing to an adjoining farm, like situated, which had not been drained, and was overgrown with rushes and with sedge grass, and then to his own fields, teeming with luxuriance and rich in the indications of an abundant harvest.

I have dwelt upon the subject of draining with more detail, because I have personally realized its benefits, and am sure it may be gone into with certain prospect of reward.—*Judge Buel.*

For the Farmers' Cabinet.

Beet and Corn-Stalk Sugar.

Mr. Editor, — Is it not passing strange, that the fabrication of sugar from the beet has never yet been able to make head amongst us? It cannot be for want of capital or industry, for it has often been taken up in good faith and worked for a time with the most promising results, but the *promise to pay* has never finally been fulfilled. Neither can the failure be attributed to a want of ingenuity, for there has scarcely a trial been made without a flourish of trumpets that a new discovery had taken place in the art, by which a larger quantity of sugar and of very superior quality to any that had been made in France, had been produced, by the veriest tyro of the profession, who has worked with *closed doors*, that the secret might be kept to himself, and a patent be secured for his private advantage—and how regularly has *closing the concern* followed! Now, I understand that no secret is practised in France, but there the thing goes quietly forward, turning out sugar to almost any amount, and no pretence to mystery, by which the system is to produce miraculously. The fact seems to be, that we Americans are not content to go on in the usual track, and become perfect through practice; we are led away by the belief, that we can find a short cut, and save time and labour, and despise the old jog-trot road that leads to perfection, forgetting the old adage, "the more haste the worse speed."

I find, in the American Farmer for the present week, a very recent account of the state of the beet-sugar business in France, which I copy for publication in your pages. By the way, would the editor of that highly respectable periodical inform us of the success which has attended the last attempt at or near Baltimore, by a company under the charge of the former agent of the Beet-sugar Society of White Pigeon, Michigan. I much fear that it has again fallen through, as we were given to expect to be furnished with an account of its progress from time to time, through the pages of that work.

"Mons. Michel Chevalier published last month an interesting exposition of the beet-sugar manufacture. In France there are 389 factories, which yield, the present year, 90 millions of pounds of sugar; and, notwithstanding the outcry of universal ruin, raised by the manufacturers when the tax was increased from eleven to twenty-seven francs the 200 lbs., the production did not diminish

from 1837 to 1840. Belgium makes 16 million pounds—half her consumption of the article. The German Union, 30 millions—a third of its consumption. Austria, the same, but consumes 110 millions of foreign sugar. Chevalier estimates the total consumption of "the most industrious and flourishing countries of Europe" of beet-sugar at 176 millions of pounds, which is not yet a third of the whole. He admits that 20 millions of francs might be the annual gain of the treasury if the beet-sugar manufacture was prohibited in France, but then the measure would require an indemnity of 40 millions to the manufacturers, and throw out of employment a great number of hands. In two of the largest beet-sugar manufactories in France, the problem of making refined beet-sugar from first process has been solved on a large scale; Mons. Dombasle uses maceration, as the process of extraction; it simplifies apparatus and labour, and neutralizes the cause of waste; he obtains from 95 to 100 of juice instead of 70, and 10 per cent. of sugar easily; and this process has been adopted in several other establishments, foreign as well as domestic."

With regard to Mr. Webb's late experiments on Corn-stalks, I coincide with you in the opinion, that the samples of sugar and molasses which were exhibited at the Horticultural Society's rooms in Philadelphia, were far superior to any that I have seen made from the beet by first process; his published account of the mode of manufacture is interesting, and the comparative yield per cent. of sugar is very great, and not easily to be accounted for; for while he is obtaining one quart of crystallizable liquor from six quarts of expressed juice from the corn-stalk, the Louisiana planters find that their richest juice from the cane yields no more than one in eight, the average being from thirteen to fifteen, and some as low as thirty or fifty for one. Mr. Webb's communication has found its way into many of the distant papers, and they have generally made it appear, that he has *obtained* 1000 lbs. of sugar per acre from the corn-stalk, whereas, he only says his opinion is that that quantity per acre *may* be obtained by an improved mode of cultivation, &c.; but I would ask, would even that quantity of sugar pay the expense of manufacture and remunerate the loss of the corn-crop? I confess that I fear not. You very properly compliment Mr. Webb on his success, and I am willing to award him a medal for his ingenuity and perseverance, but, for what part of the process he conceives he has a right to a patent, I am at a loss to conjecture. If it be upon the simple fact of having obtained sugar from the corn-stalk, hundreds of old people will tell him they accomplished that, many years ago, and long before he was born, it being a very common practice in the time of the Revolution; the manufacturers, however, contenting themselves with the syrup, and not carrying the evaporation to the crystallizing point, their object, of procuring molasses, being obtained. Or, is it in the simple operation of extracting the ear in its embryo state, by which to concentrate the juices in the stalk and to prevent their dissipation? Now this has been practised for ages upon the cocoa-tree for the very same purpose, and Mr. Webb no doubt knew it, and has merely adopted the process. We are told—"It is usual to deprive some of those trees of their fruit-buds, in order that they may produce a drink called 'Paviah Arrack;' and it is the employment of some men to collect this article, which is sold under the name of Toddy." It cannot be for the peculiar process of manufacture, for the very simple mode described in Mr. Webb's letter, and the state of the molasses exhibited, prove that the operations must have been of the most ineffective kind, or the molasses would not have held at least 50 per cent. of sugar in solution, a convincing fact that the point of concentration had not been either understood or practised, and that the whole process of manufacture had been most ineffectually performed. Now, let it not be supposed that I wish to detract an iota from the credit which is Mr. Webb's due; but I wish that he would inform the readers of the Cabinet, what are the specifications upon which he grounds his right to restrict us from doing what has been done for the last age; pointing out what original principle or new combination is exhibited in his mode of manufacturing sugar from the corn-stalk.

J. M. C.

Eastern Shore, Md., Nov. 10, 1841.

Fall Ploughing.

"A farmer of New Jersey, some years since, trench-ploughed an exhausted field of clayey soil in the fall; cross-ploughed a part of it, and in that part broke the lumps to pieces. In the spring, the field was all ploughed equally, and sown with barley and clover; the part on which the most labour had been thus bestowed, was in fine order when sown, and yielded 30 bushels an acre of barley—the other part was in lumps, the frosts not being sufficient to mellow them entirely, and the product of barley was only about 20 bushels to the acre. The same difference was afterwards observed in the clover."

Even where envy or bigotry prevents the *open* declaration of admiration and esteem, these sentiments are always *secretly* entertained towards the truly good man.

For the Farmers' Cabinet.

The Farmers' Herbarium.

Will the editor allow me to correct an error which occurs in the List of Plants proposed for a *Farmers' Herbarium*, in the last number of the Cabinet? In the note on *Triticum repens*, it is stated that it is "in Virginia called *Wire grass*." I have ascertained that the "*Wire grass*" of Virginia, is a very different plant, viz., the *Cynodon Dactylon*, of Persoon, or *Digitaria Dactylon*, of Elliott. This grass is not found in *Chester county*—though common in the south, and well known in the old world. The error originated in the employment of a *popular name*, and furnishes another argument in favour of designating plants by their *scientific names*. W. D.

To the Editor of the Farmers' Cabinet.

Delaware Lands.

Dear Sir,—The unexpected pleasure of meeting with you at my marl-pit a few afternoons ago, and the limited time I had the pleasure of enjoying your society, are reasons for your receiving this communication. It is always particularly agreeable to me to meet with those whose time, talents and experience are devoted to the elevation of the agricultural classes of the community; I feel as if a sympathetic chord in my bosom were beating in unison with theirs; for while my pursuits engage me to aim at demonstrating practically what good old mother EARTH can produce, it is theirs to instruct how it ought to be done—hence we labour in the same vocation, and with the same laudable and ennobling object in view. But my more immediate object in writing to you is, in obedience to an honest impulse of my heart; I feel that my native neighbourhood is not regarded as she intrinsically merits, or rather, I should say that our convenient location and resources are elsewhere but little known, and therefore not properly appreciated; and I am anxious to call to the subject the attention of one who occupies, as editor of the only agricultural paper that circulates in this region, a prominent situation, to do us the service which we require; convinced as I am that if our county were better known, it would be more highly estimated. I have not a doubt that in the tour you took in the hundreds of Red Lion and St. George's, you beheld with pleasure many fields studded with lime, as well as other evidences that a spirit of improvement is abroad, more especially in the large and widely extended use of marl, which has been induced by the ease and facility with which it is obtained in this section of country—an advantage which it is not possible properly to appreciate, much less to overrate, for to that single cause will the entire renovation of the whole region be owing, and that, in a very short period of time. In order that you may contrast what you have recently beheld, with that state of things which existed 15 years ago, I invite you to turn to the 4th vol. of the Cabinet, page 13, under the head of *Restatement*, as giving a faint outline of the picture, and would be glad if, in consonance with your own convictions, you could recommend those who may happen to inquire of you relative to permanent settlements in improving neighbourhoods, to come down amongst us and look around, and be convinced that they can suit themselves better in this section of country than in any other; there being at the present time several fine properties for sale, and on very easy terms; my next neighbour, for instance, offers his farm of 200 acres of land of good quality and valuable location, as a profitable investment.

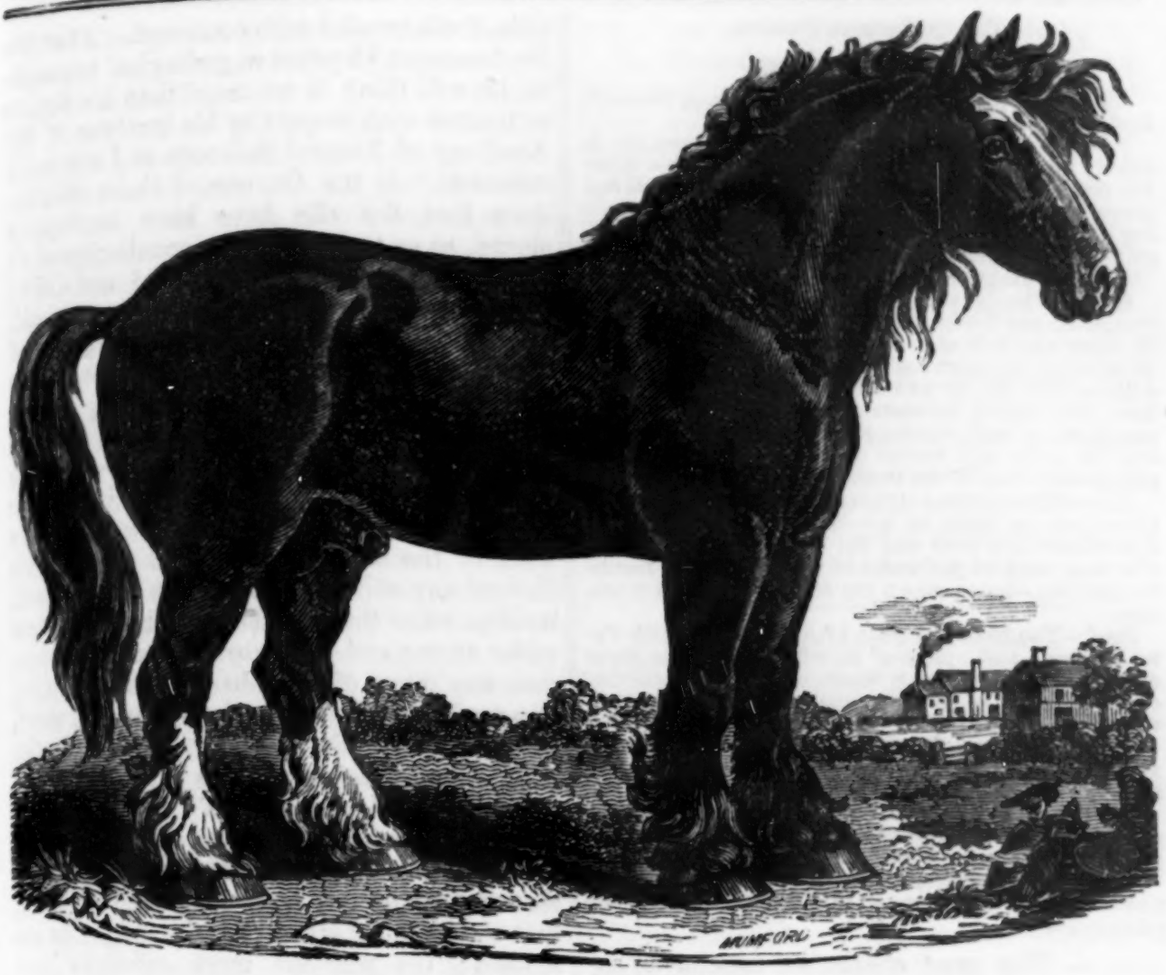
I have thus hastily thrown off something which I fear you will scarcely be able to decypher, for in truth my mind, like my hand, has become so *rusticated*, that it takes some little rubbing up before I can get it into tune. In conclusion, I would be glad that you would come down amongst us frequently; let us become better acquainted, and mutually encourage each other in pushing onward the reformation of agriculture. With sentiments of sincere respect, I subscribe myself, your agricultural friend,

Anthony M. Higgins.

Linden Hill, near St. George's, Del.,
Nov. 15th, 1841.

Transplanting Peas and Early Vegetables.

The method of rearing peas in pots or boxes in hot-beds or hot-houses, and afterwards transplanting them into the open ground, is a common practice, and often succeeds well; but I would recommend a method not so well known but far preferable to that of pots and boxes, especially when they are to be raised on a hot-bed. This consists in having a quantity of turf cut into strips, say ten inches long and three inches wide, placing them in a close and regular manner over the surface of the whole bed, grass-side downwards. A row of peas, &c. is sown on each row of turf and afterwards covered with rich earth. When they are fit for transplanting, nothing more is required than to lift up the turf piece by piece, with the peas, &c. growing upon it, and place them where they are to produce their crop. By this means, the roots receive no injury, nor do the plants sustain the least check in transplanting. This method may be adopted with similar success in the raising of potatoes, beans, &c.—*N. Y. Farmer.*



THE OLD ENGLISH BLACK HORSE.

Sire, OLD BLACK LEGS, *from a mare of the Dishley blood.*

From Low's Illustrations.

THE individual here pourtrayed, represents a descendant of one of Bakewell's most valued horses, the progenitor of some of the finest of the old dray-horses of London. Leicestershire, Derbyshire, and Staffordshire are distinguished for the breed of this kind of horses, which are still in great demand, not only in the midland counties, but over all the south of England, for the labours of the field and for road wagons and heavy carriages of all descriptions. Here they are to be seen, moving at a slow pace, attached to enormous vehicles by which merchandise is conveyed inland, and in great numbers in all large cities and sea-port towns, for the transport of heavy goods from the wharves, for the carriage of coal, building materials, and for a thousand other purposes; while in London, where the very largest and finest are in constant demand, for the brewers' drays and the enormous wagons of coal merchants, the stranger sees, with amazement and admiration, vast numbers of carriages in endless motion, drawn by teams of the largest horses in the world, although it must be admitted that there is great waste of power in the unnecessary bulk of these huge animals; for although it is contended by many, that extreme weight and bulk of body are necessary to resist the jolting and sudden obstacles encountered on the rough pavements of the city, which they never leave, yet, in truth, it is a habit and species of pride, which leads the owners of them to prefer the largest and most showy horses, to those of more moderate size and more useful action; for experience has shown, that it is muscular force, and not the *vis inertiæ* of great weight of body, which best enables a horse to overcome continued obstacles. And the mere gratification of taste in the employment of these immense and splendid animals, would scarce require a passing censure, were it not that this gratification exercises a hurtful influence in the breeding counties, causing attention to be directed to size rather than to usefulness; for in the counties of Lincoln and Cambridge, from whence the London drays are supplied with them, the breeder measures his success by the stature of the individuals he is able to rear, and at the age of 2½ years, the colts are often more than 17 hands in height, when they are bought, at prices corresponding to their size, by graziers near the capital, and used in the light work of the farm until four years old, being then disposed of at enormous prices, to the crack teamsters of London, old horses often being taken in exchange as part payment, which find their way into the hands of other great horse-masters in the provincial cities; and thus, the giant race of London dray-horses is continually renewed, before age and infirmity reduce them in figure and appearance.

This noble breed may be described as in colour a sooty black, with frequently a white face, or lozenge-shaped mark on the forehead; very generally one or more of the feet and part of the legs white; the body massive, compact and round; the limbs stout; the chest enormously broad and the neck and back short; the mane thick and sometimes frizzled, and the legs below the knee and hock, hairy down to the heel; the whole aspect conveying the idea of immense physical power, but without corresponding action. For a pull at a heavy weight, he is admirably adapted, but his step is short, and all his actions slow.

The custom, so very general in London, of feeding horses while standing during loading or unloading, by means of hair bags suspended by a strap of leather passing over the head to keep it in place, is worthy adoption elsewhere. The bit of the bridle is made to unhook at one side, and is thus removed from the mouth very conveniently, while the food, chopped hay, sometimes mixed with oats or other grain, is preserved from waste, and is eaten quickly, affording more nutriment in a small space than can be administered in hay or other long feed thrown on the ground: this mode of feeding might be adopted by farmers, while their horses or oxen are resting from labour in the fields, with much convenience and to great advantage.

For the Farmers' Cabinet.

The Missourium.

At a meeting of the Academy of Natural Sciences, held in October, 1841,

"Dr. Goddard stated that he had examined the so called 'Missourium Kochii,' and found it to be a skeleton composed of Mastodon bones, most of which appeared to belong to a single set, many, however, having been superadded, and others mended and glued together in a manner wholly erroneous.

The following errors were especially noticed:

Spine.—The spine presented the anomaly of 8 cervical vertebræ; and instead of 19 dorsal and 4 lumbar, had 23 dorsal and 10 lumbar vertebræ, making the number of bones in the spine too great by 11. The bones articulated with the 2d and 4th ribs were cervical vertebræ. The spaces between the vertebræ were much magnified by thick wooden blocks placed between them, and the spine was curved upwards, so as to give an exaggerated idea of the height of the animal.

Ribs.—These were redundant in number, and were spread out as much as possible, so as to present the appearance of a wide and flat chest. The 1st pair of ribs were stuck on the bones of the shoulder, to resemble clavicles—bones which the Mastodon does not possess.

Head.—The head was that of a Mastodon with the top deficient, and a piece of an ethmoidal? bone glued on in front to resemble a snout. The tusks were distorted laterally, so as to occupy a space of 18 feet in width.

Scapulæ and ilia.—These having been deficient, were very ingeniously pieced out with wood, glued over so as to resemble bone.

Feet.—The feet were ludicrously made up of carpal and tarsal bones, and presented the wonderful anomaly of 4 phalanges to each toe.

Several other discrepancies were observed; apart from which Dr. G. considered the skeleton one of very great interest."

— — The most charitable conclusion is, that Dr. Goddard took not the opportunity to examine sufficiently the bones of the Missourium, and is therefore entirely unacquainted with their peculiar construction and conformation. By what means did the Dr. elevate himself, so as to be able to see that the nose of the animal had been elongated by glueing on a snout? he could not, surely, have seen this while standing underneath the head at the distance of 8 or 10 feet; and if, while standing at the necessary elevation to ascertain this fact, he had traversed the length of the whole body and examined the peculiarly-constructed vertebræ of the back, he would have seen, at a glance, that the *form* which had been given it, namely, the curvature of the spine upwards, *must* have been observed, or their articulations would never have fitted their peculiar position, so *peculiar* as, when properly placed, to form the rise in the back, of which the Dr. complains. And, while in this position, he could have examined that protuberance on the lower jaw, which Mr. Koch considers peculiar to the Missourium; remarking, that he had never seen a similar one on any of the great number and variety of fossils that he had disinterred or examined, or heard of its existence amongst other naturalists—such testimony, coming from such a source, Dr. Goddard was bound to regard, and to make it a main point of examination, but it seems entirely to have been overlooked by him, if not treated with contempt. After the Dr. has spent 14 years in geological researches, he will think it no more than his due, to be treated with respect by his brethren of the Academy of Natural Sciences, or I am much mistaken. Is the Dr. one of those who believe that the ribs have been improperly placed, so as to present the peculiarity of an edgewise direction to the body? and did he ever witness this form in any other animal, the Mastodon, for instance, to say nothing of their total incapacity to form the necessary resistance to an animal of such magnitude; their *flatness of curve* being also remarkable. At which ends were the ribs—of which the Dr. accuses Mr. Koch of having formed the clavicles—affixed to the vertebræ? at the wide or the narrow ends? neither of which showed any suitable articulation: they were, besides, more than double the thickness, and *wider* at one end and *narrower* at the other, than any other of the ribs in the body, being also perfectly *straight* in their form—in short, being precisely what they appear to be in the engraving of the animal, as exhibited in the last number of the Farmers' Cabinet, and far enough removed from the semblance of ribs in *any* form or shape. Mr. Koch admitted that the top of the skull had been removed, that the peculiar structure of it might be examined; the portions were carefully preserved and were exhibited for this purpose, and on replacing, they would still form a structure far removed from that of the Mastodon, or of any other animal that had ever been discovered or exhibited; but of this Dr. Goddard knew nothing, as he had not the means of re-uniting them. Were the feet—which the Dr. says "were ludicrously made up of carpal and tarsal bones"—composed of real bone? Then Mr. Koch must have been endowed with a sagacity and capability far above any of his traducers, to be able to form them of pieces of bones collected from other animals, and so exactly to adjust them—could Dr. Goddard take the bones of the fingers of the human hand and form perfect joints unless they had originally belonged to the same subject? The lower jaw has been considered by some of the Professors to be too short for the upper jaw, and has, therefore, been rejected by them as not having originally belonged to the animal, but the Dr. seems willing to retain it, coming, however, to the same conclusion by lengthening the snout! On this subject, Mr. Koch remarked, "I must certainly have found a lower jaw with the animal, for it is well known that this part of the skeleton retains its form and substance longer than any other, while buried in the earth. Now, what could I have done with it? it is not likely that I would part with what I valued beyond any price, and for

which I had toiled for months amidst hardships and privations which these gentlemen have never known, and can have no conception of. I would tell Dr. Goddard that I value that jaw far more than I do his head, or all that he is worth in the world! and if he had examined it, he would have known something about it."

Dr. Goddard objects to the position of the tusks, or rather, horns—now, not to notice the declaration of Mr. Koch, that "one of them remained fixed in its socket during its excavation and transportation over a very rough and wilderness country, and that he was therefore able to give a correct and indisputable description of the position and situation which it occupied in the skull"—all which was attested by a visiter in the room, who informed, that it so remained until it arrived at St. Louis, and was displaced while being conveyed up a winding staircase in that town, *to his certain knowledge*—I would ask the Dr. what direction he would give them, *upwards* or *downwards?* On trial I fear he would find himself on the *horns of the dilemma*, for the sudden turn which they take after they leave the interior of the head—but of which peculiarity of form the Dr. must be ignorant, as he had not the means of elevating himself to see and examine this *very peculiar conformation*—absolutely interdicts either, and decides, most conclusively, that the position which *has* been given is the only one that *can* be given to them. But are not the tusks of the Mastodon of ivory? if the Dr. had examined these, he would have found them decidedly of bone, having the peculiarity of uniting and becoming whole after an injury, which *ivory* has not. And are not the bones of the Mastodon found to have contained marrow? the bones of the Missourium were entirely without marrow, showing the animal to have been amphibious, and therefore *not a Mastodon.* On the inquiry, "how could you have known the manner in which to replace the bones?" Mr. Koch artlessly replied, "simply by having had the opportunity of taking them to pieces," remarking, that the arched form of the back is precisely that which it bore in the position in which it was found, and which, had it been straightened so as to satisfy Dr. Goddard, would have very considerably added to the length of the animal. The ribs were, indeed, spread out, so as to give the appearance of "an enormous wide and flat chest;" and the very little curvature which they exhibited ought to have convinced any unprejudiced mind—even at a single glance, and without the additional testimony of the "singular peculiarity" of standing *half reversed* in the body—that they were not those of the Mastodon. Now, I would ask, to what animal do these ribs belong if not to the Missourium? certainly not to the Mastodon, as Dr. Goddard must confess; and where are those bones that were found with them, if they are not these that are exhibited with them?

The question, whether the bones are placed for present exhibition in the position which they occupied in the living animal, is quite another and a secondary one, which might be agitated at some future opportunity.

J. M.

P. S. If the Doctor had contented himself with the *negative* side of his battery he would have been less vulnerable, but having declared that the bones are those of the *Mastodon*, he must excuse the *positive* charge of having acted in this matter without his accustomed fairness and discrimination.

Preservation of Butter.

At a late Council of the Royal Agricultural Society of England, a jar of butter was received from Henry Wood, Esq., as a specimen of the successful mode adopted for its preservation when that article is intended for export to foreign climates.

Mr. Wood informed the Council that this butter had been prepared on the 19th inst., (June,) according to the process adopted in eastern countries, where it was used for culinary purposes instead of hog's lard, which the Mahometan law prohibited, and would keep for any length of time in a perfect state of preservation, although it contained no salt or other additional substance. This preservative state of the butter was induced by the removal of scum, and the dissipation of the watery particles of fresh butter, effected by the gentlest possible application of sufficient heat to produce the result. Mr. Wood stated that in Asia this gentle heat was obtained by the natives by filling a large open earthenware pan with powdered and well-dried cow-dung, and then setting fire to it, introducing into the midst of the burning cow-dung an earthen vessel containing the butter, which thus became melted; and when the scum, as it rose, had been successively removed, and the watery particles driven off by the heat, it was poured into a jar and preserved for use. Mr. Wood suggested that a sand-bath, properly regulated, might answer the same purpose as the dried cow-dung, and as the process was so very simple, there could be no difficulty in preparing it; and that, when once prepared, the butter never became tainted. Mr. Wood stated that he carried with him to the Cape of Good Hope some butter prepared in this way, a year previously, and which was there pronounced to be superior to the salted butter of the colony, and for culinary purposes far superior to lard.

For the Farmers' Cabinet.

Cultivation of the Grape.

Mr. Editor,—A question over the signature Q. E. D., appeared in the September No. of the Cabinet, as to the best mode of cultivating the grape vine, and as it did not receive an answer in the last number, perhaps the following imperfect sketch may be of service to your correspondent. I have propagated some this season by the slip or cutting, and the plan I find to succeed the best is, to take but one eye for each vine from the last year's growth of wood, and plant it about an inch under the earth in a moist place, where they will be shaded until the second or midsummer growth takes place, which will be about the middle of July. In about a month after, take them up carefully and put them in pots, keep them in the shade a few days, and then put them out. The second season, cut them down to within one eye of the surface of the earth, after which you will have a strong, healthy vine of great vigour. Should it be required to plant them out where they are to remain the second summer, prepare the ground by digging out the earth three feet deep and as many wide, filling up the trench with a compost made of ground bones, cuttings of leather, saw-dust, leaves, and virgin earth; and if what woollen manufacturers call *waste* can be procured, it will be found preferable to every other substance: in such a mixture, carefully composted, I planted some vines last spring, which have flourished admirably; one of them was four or five years old, and had been removed from a plantation where they stood too thick; the roots were bare of earth and it remained out of the ground for some time before planting; but by this mode of culture it has thrown out five branches the present summer, each measuring ten feet in length, making an aggregate of fifty feet. It bore several bunches of fruit, which were removed to give the tree more vigour; my present purpose being shade, rather than fruit.

The present season I have planted several Black Hamburg, White Chasselas, and Rose Chasselas vines, which thrive extremely well by the plan I have adopted—the Black Hamburg in particular; and I attribute my success principally to the use of the woollen waste, which is very oily, and contains three excellent properties—first, the oil, which is a rich nourishment; second, its light substance, which permits the roots to penetrate easily, and form strong shoots so deep as to be out of the influence of frost; admitting at the same time the air, so necessary to vegetation: its third and best property being, its durability, for its effects will last for twenty years. I have tied up my foreign vines with straw to protect them through the winter, and next season I hope to be able to give as favourable an account of the fruit upon them and my native vines, as I am this year of the vines themselves. The border on which the cuttings are planted should receive a dressing of compost made of river sand, rotten wood or saw-dust, and rich light earth, well turned and pulverized for the purpose. Your well-wisher,

W. P. H.

Manayunk, Nov. 8th, 1841.

Transplanting.

When trees are removed for the purpose of being transplanted, their roots should, if possible, be preserved fresh and entire. If these precautions have been omitted, their whole bodies and roots must be immersed in fresh water during twenty-four hours; and their tops must be lessened in proportion to the loss their roots have sustained. The sources by which they derive the nourishment which they receive from the earth being diminished, the whole sap of the tree, and even its vitality, would otherwise pass off by transpiration.

October and November, and immediately after the first hard frosts have arrested vegetation, is esteemed the best season of all for transplanting trees. The peach, the plum, the cherry, and evergreen trees, do especially well when planted early in autumn. But where circumstances render it necessary, transplanting may be deferred till spring.

When trees are transplanted in autumn, the earth becomes duly consolidated at their roots, and they are ready to vegetate with the first advancement of spring.

The holes for receiving the trees, should be dug from four to six feet in diameter, according to the size of the trees, and eighteen inches deep; the yellow subsoil should be cast out to this depth, and replaced at bottom with rich soil, intermixed with a portion of manure. The tree should generally be set no deeper than it stood before, otherwise the lower roots will cease to grow; the fibres should be spread horizontally, in their natural position, and the soil intimately and compactly placed about their roots; manure may be placed above and beneath, and on every side, but ought never to be suffered to come in contact with the roots, as it is liable, in this case, to corrupt and injure them: finish by treading the ground very hard. When evergreen trees are set, it is generally considered indispensable to pour at once a few gallons of water around the tree previous to treading hard the earth: finish earthing, and tread hard an hour afterwards. This is an excellent and safe mode with regard to any tree. —*Am. Orchardist.*

For the Farmers' Cabinet.

Soils and Manures.

Mr. Editor,—When I first read the article at p. 125 of the last No. of the Cabinet, giving an account of the discovery that had been made in France, relative to the cultivation of wheat, merely by the application of straw, without the aid of the plough, I could not but feel sceptical concerning the result. This, however, did not prevent me from making the experiment, substituting a board for the plate of glass; and I await with impatience the springing of the crop. Now, reasoning from analogy, would it not be natural to suppose, that the stalks of asparagus would make the best dressing for the beds containing their roots? They might be bent down by means of a roller passing over, and then there would be no danger of their being carried away by the winter winds: affording a very thick covering of manure, on decomposition, which might be slightly covered by an addition of earth taken from the paths, in the usual way;—indeed, there would seem no question about the rationale of the thing.

Many persons smile at the notion, that the crop of the French agriculturists was found equally productive with those that were raised by means of the highest cultivation, although grown on a perfectly exhausted soil, and without ploughing—nay, that it was better than these; and more wonderful still, that the wheat grown on glass, without a particle of earth, was the best of all!—observing, that "truth is strange—stranger than fiction." But I have just met with an extract from an interesting publication—"Morton on Soils,"—which seems to take the same ground, namely, that the soil of itself affords no nourishment to the plant!—But I must copy the article as I find it, in the Southern Planter, a valuable periodical, published at Richmond, Va., worthy the high character which it is earning in that part of the Union.

"We have lately met with an extract from 'Morton on Soils,' the purport of which is, that the proper qualities of soils are deducible from a correct understanding of the office they perform. *The soil itself affords no nourishment*—it serves only as a great spring, to receive and give up water, air, light, and decomposed vegetable and animal matter—the great elements of plants. There are three great earths, the due admixture of which goes to make up a productive soil; these are, silex or sand, alumina or clay, and lime. Organic matter, whether vegetable or animal, should be kept in an active state of decomposition, because it is only the substances which are evolved in the process, that afford food for plants. It is the property of silex or sand, to decompose the manure bestowed upon it—and so far it is useful; but unless it be tempered with a due admixture of clay, the porousness causes evaporation and waste. A dry, light, sandy soil, on a clay sub-soil, is more productive than a sandy, gravelly sub-soil, which permits the sinking of the valuable qualities of the manure. The clay underneath also affords a ready opportunity, by deep ploughing, of tempering the sand. But a deep, tenacious, and compact clay, is even less productive than a soil composed of sand, for in such a soil decomposition goes on very slowly, whilst in sand and gravel the process is very rapid. Adhesive clay is also impervious to water, which is therefore collected and retained in too great quantities for the purposes of vegetation.—When calcareous matter forms a soil, it is generally a carbonate of lime, attracting moisture and chemically combining with it. When burnt lime is slaked, whether by exposure or other process, it takes up one-fourth of its weight of water, and is as dry and powdery as the finest flour; and when exposed to the atmosphere, in this state, it soon absorbs the carbon which was expelled from it by burning, and becomes of the same nature as it was before it was burned, namely, a carbonate of lime, but only finely divided. *In its caustic state, that is, before it has attracted the carbon, it is a powerful decomposer of animal and vegetable matter. Afterwards, it has a tendency to preserve these substances from decay.*

"The decomposition of organic matter forms the chief food of plants; and the free ingress and egress of light, air, heat, and moisture, are necessary to this process. We see, then, the necessity of frequently opening and moving the earth; we see also the necessity of a due admixture of the primitive earths—the SAND to promote decomposition, and correct the tenacity of the clay; the CLAY to prevent a too hasty evaporation and loss, and the carbonate of LIME to attract moisture; and we see also the value of a clay sub-soil, and the necessity, so frequently urged, of sub-soil ploughing. What should be the proportion of the different constituents of a productive soil, have been variously stated by different authors, and will, of course, depend much upon the moisture and dryness of the climate—for, according as it is moist, the soil should be friable and porous—as it is dry, adhesive and retentive; and under these circumstances, the proportions may vary from fifty to seventy per cent. of silicious matter; from twenty to forty of clay, or aluminous matter, and from ten to twenty of calcareous matter—the decomposable vegetable or animal matter, not exceeding one-fourth of the weight of the earthy constituents.

"The opposite effects of caustic and carbonate lime, is a point too little regarded in experiments made with this article. It is not an uncommon practice to spread lime on the manure heap, with very different results: for, if the lime is used before exposure, it hastens the decomposition of organic matter; and although some of the gases evolved may be retained by the lime, the probability is, the greater parts are lost. The carbonate, on the other hand, prevents the natural decay, and preserves these qualities from the growth to which they are to be applied; but if administered in too great quantity, it will retard decomposition beyond the period when it is desirable it should take place. Thus, lime is like an edged tool, which, although invaluable in the hands of a skilful operator, may prove injurious when wielded by an unpractised hand."

Referring again to the theory propounded by the French agriculturists, I would say, the idea that nature has the power of renovation must be self-evident, else she could not be perfect, and would long ago have been exhausted; but it is not to be supposed that the system of top-dressing with straw will ever be found either desirable or economical, for all that can be raised will be required as food or bedding for our cattle, and it would be the height of extravagance and folly to return it to the earth before passing it through the bowels of our cattle, or their stables; so that there is no expectation that the plan of manuring with straw will ever be adopted by any practical man, under ordinary circumstances. This, however, does not militate against the new theory of top-dressing; nay, it goes to substantiate the fact, that the system is *natural* as well as *rational*, and may be depended upon in all cases. But it is not less rational to suppose, that the straw of any crop must be greatly enriched by the addition of animal matter, which it acquires in serving as food and bedding for cattle; and it is only to ferment it with a due portion of muck, virgin earth, or other absorbents, in the proportion as four to one, and return it to the soil as a top-dressing, relying upon the system adopted by nature herself, for all the benefit that can be realized from such a process. We hear many persons object to the system of top-dressing ploughed land, considering it a wasteful mode of application; but we do not hesitate to practise it on grass land, without the least idea of its deterioration from exposure to the "light, air, heat, and moisture," so necessary for its proper decomposition.

James Sutton.

Nov. 15, 1841.

It is not money *earned* that makes a man wealthy: it is what he *saves* from his earnings.

Arrangement of Flower Beds.

The contrast of colours is of the greatest consequence, whether for a good or bad effect; for, if to dress a brunette beauty in sky blue makes her sallow, or a fair one in orange colour makes her ghastly, or a fresh-coloured girl in white makes her red, so, to place discordant colours near each other produces just as disagreeable effects, although not quite so personal in a bed of flowers. What are called *complimentary* colours always suit each other;—the complimentary colour of red being green; of orange, sky blue; of yellow, violet; of indigo, orange yellow;—consequently, blue and orange-coloured flowers, yellow and violet, may be placed together, while red and rose-coloured flowers harmonize with their own green leaves.—White suits blues and oranges, and better still, reds and roses; but it tarnishes yellows and violets. In all cases, however, where colours do not agree, the placing white between them restores the effect. The following combinations are good: Orange yellow with pale blue; greenish yellow with deep rose; deep red with deep blue; and orange with violet;—white suiting all these combinations, more or less. But we should always separate rose from scarlet or orange; orange from orange yellow; yellow from yellow green; blue from violet blue; and even red from orange, rose from violet, and blue from violet. Applying these conclusions to the dahlia, the following arrangement of colours is recommended: If in lines, white, reddish scarlet, white, rose lilac, yellow, violet or purple, orange, white, reddish scarlet, purple tinged with green, rose lilac, yellow, violet or purple, orange, white, red scarlet, deep purple, rose lilac, white, yellow, violet or purple, orange, white, &c. To produce the best effect in *patches* of seven, we may have thus: Orange, with a purple or violet centre; purple or violet, with a yellow centre; yellow, with a purple or violet centre; scarlet, with a white centre; white, with a scarlet centre; rose colour, with a white centre; black purple, with an orange centre. These considerations deserve the notice of those who plant out beds of flowers, for they will be found to affect essentially the display of agreeable colours; and in adjusting stands of flowers, the harmonious contrast of colour should always be kept in view, and the importance of attending to the effect of complimentary colours observed advantageously, remembering always, that the nearer colours are brought together, the more decided is their mutual effect.—*Hort. Mag.*

Whatever is false is despicable—no one ever loved falsehood, even in himself.

To the Editor of the Farmers' Cabinet.

Helianthus Tuberosum.

Dear Sir,—I am very much pleased with your description of the Chester County Sow, and am surprised at the number of pigs raised by her. Several of my Woburns have had as many, but I never had a full Woburn raise more than ten pigs. I once had a *half* Woburn which raised fourteen; the Woburns generally, have but ten teats, and I have never known a sow raise more pigs than she had teats, for each pig steadily sucks his own, and the weaker ones that cannot get a teat, perish.*

I am really gratified to hear of the discovery of making sugar from corn-stalks. If the process is a cheap and simple one, and the expectations of Mr. Webb as to quantity should be realized, it will be of incalculable advantage to the northern and middle states. I should fear the use of the corn-stalks after the juice is extracted as food for cattle, for in my neighbourhood, we cut some corn whilst in the roasting-ear state, to *commence* fattening our hogs for the early market, and threw to them the corn and the stalks; the hogs chewed the stalks, and after extracting the juice, put out the remains, and cattle were very fond of eating the pieces from which the juice had been thus extracted, but a number of those that eat of it died with inflammation of the bowels: this disease is called with us, the "mad itch." The cow appears to have an intolerable itching of the head, and commences rubbing the head, which inflames and swells until the eyes are either rubbed out or closed from the swelling; some become furious, but others continue to rub until they die. It is a very dangerous disease, generally proving fatal: the only remedies that I have known to relieve them have been copious bleeding and purging, with large doses (two or three pounds) of Epsom salts.

The sugar-beet is a very worthless article with us, and contains very little sugar. I have procured seed from various sources, even direct from France, and yet the result has always been the same—an insipid root of very little value: I should have supposed that it was owing to our soil, but for the extraordinary sweetness of the turnip blood-beet. The sugar-beet, from its extraordinary yield, may be made valuable as food for calves, milk cows, pigs, sheep, and other stock that require *green food* during the winter, if it should be mixed with something that is more nourishing, but I should not like to depend upon it alone.

I put in a large crop of roots last spring, but had them very much injured by the potatoe blister-fly and the grass-hoppers; they almost entirely destroyed my potatoes, sugar and blood beets, carrots, parsneps and turnips; and seriously injured my artichokes, (Helianthus Tuberosum) by eating the bark off the stalks. I planted one of my apple orchards that contains 100 trees, in artichokes, and have now had fifty sows two weeks upon them; there are apples and artichokes in this orchard, and the sows appear to me to fatten as fast upon them as the hogs in my fattening pen. I think the artichoke will yield twice the quantity upon the same ground that will be produced by sugar-beets, but I have known of no experiment to prove which is most nourishing. Hogs are much fonder of the artichoke, and cattle eat them equally as well. I think I shall make a larger experiment with them next year, if nothing should prevent. They have one advantage over most roots—they are not injured by frost, for they keep as well one inch under ground as if they were entirely protected from its influence. Yours, very respectfully,

Saml. D. Martin.

Colbyville, Ky., Nov. 8, 1841.

* The Chester County Sow here spoken of, raised seventeen pigs, but not without the assistance of the suckling-bottle, the owner being willing to encounter the trouble of attending them. This fine animal has since brought sixteen pigs at a litter, but died within a week after farrowing, to the regret of the whole neighbourhood. — Ed.

French Establishment for the Breeding of Horses.

The French government has been for a long time so much impressed with the importance of this branch of national resources, that they have formed different establishments, called haras and depôts, or stations for stud horses; and in some cases, with grazing land for brood mares, no expense being spared, either as regards accommodation for the horses or their selection. Many of the best-bred English horses have been bought, the prices given being as high as 2,000 or 3,000 pounds sterling, and much judgment has been shown in the selection of the English thorough-bred horse. But with regard to the half-bred stud horse, in many instances, an imposing presence or fashionable colour appears to have decided the choice of animals—in which evident mal-formation or organic disease exists. In the spring, a large proportion of these horses are sent out to serve different districts, where they remain until July, and no charge, unless it be something very trifling, is made to farmers for the use of them. But sufficient discrimination is not exercised respecting the *mares*; for, instead of allowing those only to be served which possess decided merit, and are free from hereditary or other disease, no distinc-

tion is attempted, and the imperfections of the dam are thus frequently perpetuated.

The most important of these establishments in Normandy, are the Hara de Pin, near Caen, and the depôt for stud horses at St. Lo. In the former there are generally about 500 horses and mares, and in St. Lo about 120 stallions. That at Pompasour, in the south of France, is another of these great breeding establishments, so creditable to the energies of the government.

So entirely unaccustomed are the French to "riding across" an enclosed country, that until very lately they thought it absolutely impossible for any man to ride a mile straight ahead, over fences! To convince them of their simplicity on this point, an English gentleman, residing in the province, and possessing a very choice thorough-bred English hunter, offered to bet at a large French party, where the subject was alluded to, that he would ride his horse over a mile and three-quarters of the rich vale of Avranches, in less than ten minutes, taking fences. His offer was immediately taken, giving him odds, and allowing him twelve minutes for the work, which the French politely insisted was the *least* portion of time they could allow him. The match came off last April, and several thousand persons, of all ranks, came from very distant places to see the performance—feeling quite satisfied that the thing could not be done in the time specified. It is difficult to describe the enthusiasm of the spectators, among whom were noblemen of the highest rank, pressing to be introduced to the rider, after he had easily accomplished his task, and paying him compliments far disproportioned to his achievement. Some ladies did him the honour of assuring him, that he was "the admiration of the whole world!" nay, so exciting was the subject, that the Count of St. Germain, president of the Avranches Agricultural Society, gave a long statement of the whole affair, in the journal of the society, bearing his signature.—From this we shall literally translate a passage, likely to amuse our readers. After many preliminary observations, including the dress of the rider, and the correctness of his horsemanship as he came to the starting post, amidst a vast crowd whose eyes followed his movements with intense anxiety, the count proceeds thus:—

"The noble animal glided like a serpent through the branches which opposed his course, lowered his head with great sagacity, and then extended his limbs horizontally, clearing at a single bound the fences in his way; presenting, as he went along, the image of an ideal course in open space, he surmounted, in two bounds, the wooden fences protecting the streams, coiling up his legs sometimes like a stag in his effort to escape from the hounds, proportioning his exertions to the difficulty of the leap, and changing his style of going according to the nature of the ground; obedient to the slightest intimation of his rider, he neither felt at any time the want of the guiding hand, nor failed to take advantage of it;—no refusal, no hesitation, no check of any kind, stopped him for a moment; on the contrary, his multiplied bounds seemed only to accelerate his speed. Long and repeated huzzas were soon heard at the winning-post, which Mr. Moggridge reached in *four minutes and fifty seconds!* The rider appeared to have experienced fatigue, but the horse showed no symptoms of distress, finishing with a leap of more than twenty-three feet, over a brook. He had cleared, in his course, fifteen obstacles, one of them a hedge six feet high, with brush-wood at each side, and a distance of a mile and three-quarters in the time. Many anticipated dread at witnessing an exhibition which they considered excessively dangerous; but on seeing the mutual confidence between the horse and his rider, they were soon relieved from their apprehensions. The emotions experienced at an ordinary horse-race are dull compared with the palpitations excited on witnessing an exertion which some cavillers have been disposed to compare with the combats of the circus, but which should rather recall the remembrance of the rude tilts of the middle ages."

The style of this description shows the entire want of acquaintance, on the part of the French, with modern horsemanship.—They view with astonishment a performance which is so familiar with us. But the fact is, the Norman horse, although he may answer for the common purpose of hunting, in a close country, and may find his way over ordinary fences, has neither the length of form which would enable to make a good stretchy leap, the speed to keep up with fast dogs, nor the bottom to hold out. They have trotting matches occasionally, with and without draught; and prizes are given by the government in proportion to the merits of the horses, in single or double harness, or with riders only. One of these exhibitions took place last year at St. Lo, where a young man came up to the starting-post to ride a trotting match on a horse of good promise, but encumbered with a huge new saddle, having attached to it in front a horseman's cloak, in complete French style, and a portmanteau behind. An English gentleman, perceiving the absurdity of unnecessarily imposing upon the horse an additional 35 lbs., offered to the rider the use of an English saddle, weighing eight pounds. But the fellow refused to exchange, on the ground that the horse was accustomed to the heavy saddle, &c., and would not travel well with any other! He lost the race accordingly.—*Quart. Journ. Ag.*

THE SHEPHERD'S DOG.

From the life, by P. Reinagle, A. R. A.

In the accompanying plate, the artist has done eminent justice to his subject. The soft, mild and inoffensive countenance, indicative of true breed, together with the lopped ear, small nose and prominent under jaw, are admirably portrayed; as much may be said for the figure of the animal as a whole, that gait and peculiar position of the fore leg—it is indeed a portrait from the life.

This race of dogs have a strong natural instinct to *keeping* or watching and preserving anything that may be put under their care, which, joined to patience, mildness and gentleness of disposition, indicate to the inquiring faculties of man their use, as *keepers of sheep.* Their sagacity, docility, and powerful attachment to home and to their master, aided by their natural propensity, render the teaching them their duty an easy and pleasant task, the young dogs indeed being generally instructed by their elders, with little instruction from the shepherd.

But it is upon the continent of Europe where the labours of the sheep-dog are incessant, from the minute division of their flocks and the total want of fences, where he may have to confine his charge to a very narrow strip of land; but even there, their tenderness, kindness, and affection to their charge, are proverbial. Many stories are told of their sagacity, fidelity and attachment to human nature, of which the following are well authenticated. A person living in Yorkshire, purchased a flock of sheep from the county of Durham, and after the sheep had been several days on their travel, the owner set out from his home to meet them, accompanied by his dog; they were brought in safety and lodged in a field for the night, the dog in charge; but the next morning, fifteen of the sheep with the dog were missing. The owner not knowing what to do, determined to leave the matter to *Trusty*, remarking, "he would not leave them, while he had a foot to travel on," and at the end of two days and three nights, his ears were gladdened by the barking of the faithful creature, who was entering the village in the rear of the fifteen runaways, and driving them before him with the greatest care! The distance they had gone must have been very great, as they had much wild country to run over.

As a young man was attending his father's sheep he had the misfortune to fall and break his leg, while three miles from home. The extreme pain from the fracture while lying on the damp ground in the inclement season of winter, suggested to him the following expedient: folding one of his gloves in his pocket handkerchief, he tied it round the neck of the dog, and ordered him *home* in a rough voice; the faithful animal immediately set off, and returned with the parents of the youth, just as evening was closing around him.

A farmer who lived near Harrow-weald common purchased a lot of sheep at Kingston fair, the jobber *throwing in his dog*, as the purchaser expressed a fancy for him: the sheep and dog were taken home, and at eventide the flock were committed to the care of the dog for the night; but in the morning they were all missing! The fear that they had been stolen was heart-breaking to the farmer, but having searched the neighbourhood in vain, the thought occurred, that the dog had taken them back to their old quarters, and so it proved, for he overtook them within a few miles of Kingston, the faithful animal driving them soberly and carefully along before him!

On another occasion, a dog, having the charge of a large flock of sheep in a field near Guildford, drove them into a pit, and instinctively feeling it his duty to keep and guard them there, confined them so closely through the night as to cause the death of nearly 200 of them, which were found in the morning smothered by close packing.

For the Farmers' Cabinet.

Hessian Fly.

Mr. Editor,—The present autumn has been peculiarly healthy and favourable to the growth of the winter-sown grain; there is therefore no complaint of the fly in the wheat, although much of the seed which has been sown was as highly *charged* with its eggs as the firmest friend of the Morris school could desire or even hope. What will now become of the labours of those who have been engaged in the rearing young Hessians for the last three months? To be serious, what need is there of any further testimony, to prove that the fly is the *effect* of disease, and not the *cause?* To argue the matter further would only, in my estimation, be to darken counsel with words without knowledge. And although it might be said, it is in vain to war with the elements, yet, to be prepared for sickly seasons, by cultivating a hardy, healthy state of the plant, is the part of true wisdom; and this might be done, as has already been said, by sowing on unexhausted soils, not rendered light and porous by dung and fallow, which are given with the view to recover that *stamina* of which the land had been deprived by the growth of a crop of oats; and this, in a climate too hot and dry for the growth of wheat, which delights rather in a moist, cool and compact soil: at any rate, upon such soils and under such management, it is necessary that the sowing should be delayed twelve or fourteen days after ploughing, that the soil may become firm and compact, to receive the roots of a plant destined to withstand the rigours of winter, and the effects of frosts and thaws, which it can never do without suffering injury, in a spongy surface, resting upon a hard and tenacious subsoil, commonly called *hard-pan.* To me, it does not appear necessary to go far to discover the origin of the Hessian fly, while to guard against it is the part of good husbandry, and this might in a great measure be accomplished, by a judicious course of crops and proper cultivation; and I hail the theory of top-dressing with *delight*, convinced that the system will work wonders for the growth of the wheat crop, securing for it a compact surface-soil, which, with a subsoil broken up by means of a subsoil plough, (which in England is enabling them to pay their taxes,) will, in this country, lead to the most profitable results.

Is it not curious to observe, that no complaints are now made of the Hessian fly, although the crops have been sown, as usual, at all times of the moon, and at all seasons, whether early, late, or *middling;* before, as well as after the frosts that have fallen out? and without regard to all this, all is now as it should be! What now becomes of the proposal "to discontinue in toto the cultivation of wheat throughout the country for several years in succession, to starve out the fly?"

Vir.

Nov. 20, 1841.

The Culture of the Vine.

The vine flourishes in almost every latitude in the temperate zone, but is more prolific and useful between the parallels of 40° and 45° in Europe, and 35° and 40° in the United States. Wine cannot probably be made to advantage in a higher latitude, yet with a little care grapes for the table may be successfully cultivated 5° further. It is said that better table fruit is produced in England than in France or Italy. Artificial heat is there frequently employed, but the necessary trouble and expense entirely prevent its utility to the American farmer, and it can well be dispensed with. Grapes of excellent quality and in great perfection may be raised by our farmers with so little trouble and expense as to make it an object of attention. The species termed Isabella and Catawba, might be selected as hardy and producing an abundance of choice fruit. They may require occasional protection from the severe frosts of spring and fall, and need to be covered through the winter. Care should then be taken that they be preserved from moisture as well as cold. A little additional attention of pruning and training secures a good harvest. Little attention has yet been given by farmers to the cultivation of the vine, which may seem surprising, when it is considered that almost every farm possesses a suitable location for its growth, and that the abundant return of a delicious fruit would amply repay the cultivator, in his gratification, and profit if in the vicinity of a market. But the reasons are obvious. The proper way of managing vines, and ripening the fruit, is so little known that few have made the attempt, or when they have, no permanent success has resulted.

Setting.—A light soil is best, rather dry than moist, and for the full benefit of the sun, a slope towards the south or south-east should be selected. The vine may be propagated in several ways. If a branch of the parent stock is bent down and covered by a few inches of earth in the early part of the season, it soon takes root at the joint beneath the soil, and may be transplanted the second year. This has by some been considered the best method, and it has the advantage of requiring little time and trouble. Cuttings are, however, more generally recommended. They should be taken from the vine at the fall pruning, and preserved for setting till spring. Each cutting should consist of a little more than one joint of the last growth, with a piece of

the old wood, resembling together a little mallet. These are set in the soil, prepared to sufficient depth, either in a sort of nursery or where the future vine is wanted. If where the vine is to be trained, two or three cuttings are put down near together, and the strongest selected after they have taken root, and the others removed. Each cutting may be set in a position nearly vertical, and covered within half an inch of the top. A strong stake should be driven into the ground to support the young shoot, and the soil worked frequently with the hoe and kept clear from weeds.

Vines rarely need watering, and it should be done only occasionally in time of drought.

Training.—Various methods have been adopted by vine-dressers. In France, the main stalk is permitted to grow only a few feet in height, and the branches are carried off laterally and fastened to upright stakes set in rows for the purpose. The separate vines are placed at the distance of 16 or 18 feet apart, and the vineyard appears in continuous rows, somewhat like a New England corn-field, with wider intervals for pruning and gathering the fruit. The branches here shoot out near the ground, which gives a more acid flavour to the grape, a desirable quality for the manufacture of wine. In Italy the vine is more frequently trained upon arbours, or trees that produce scanty foliage. No branches are allowed to grow upon the main stock or trunk, until it has ascended 8 or 10 feet to the top of the arbour, or it may be a much greater height to the limbs of the tree. It then expands itself and roofs the rude arbour with a gorgeous covering, and suspends its clusters beneath, or adorns the lofty tree with its pendant branches and tempting fruit. Arbours of lattice or trellis work are often used in our own country, or what is more convenient, a simple trellis, either perpendicular or sloping. This may be put up at small expense, with upright posts at proper intervals, with horizontal slats or bars, 6 inches asunder. These need not come within 2 or 3 feet of the ground, and may extend as high as necessary, perhaps 6 or 8 feet. The vines are planted at intervals of 8 or 10 feet near the trellis. They may then be conveniently taken down to be protected from the winter and secured again to the trellis at the proper time in the spring. A single trunk should come from the root, and no shoot or branch be allowed to grow within 2 or 3 feet of the ground. Above that distance, the vine may be trained at the pleasure of the cultivator. It may cover the whole trellis, but one shoot should not overlap another, which would shut out the sun and check the growth of those beneath.

Pruning.—A careful and judicious pruning is an indispensable requisite to a good harvest from the vineyard. If the vine is produced from a cutting, one shoot will be sent out the first year. This should be cut down to two joints in October. The second year, one shoot from one of the joints only should be allowed to grow, which must in like manner be cut down to two or three joints in the fall. The third year, two branches may be preserved and cut down at the fall pruning, so as to leave from two to five joints, as they may appear thrifty or otherwise. All shoots that appear at parts of the vine where they are not wanted must be rubbed out, and the main body of the stalk kept naked. The fall is the best time for pruning, perhaps in October, after the fruit is gathered. As many branches of last growth may be left as the cultivator may think the parent stalk will sustain for the next year's fruit, and each branch cut down to a proper number of joints. The wounds occasioned by the fall pruning are closed before the ascent of sap in the spring. Any considerable pruning at that time would cause an exudation of sap to the injury of the vine. It is a common fault to allow too great an extension of the vine, and the object in pruning should be to reduce it to just what the vigour of the root will sustain for the perfection of the fruit, and what can be presented to the rays of the sun.

Ripening.—In July, after the clusters have appeared, a portion may be cut from all the branches where they are found. The superabundant nourishment is then taken up by the fruit, which attains a greater perfection and becomes suitable for gathering many days earlier. Any black surface in rear of the vines, as a painted fence, or wall, is said to answer a good purpose. If the branches be taken off with the clusters and suspended in a warm room, they will be preserved fresh, and continue to ripen for some time. The leaves seem necessary to the perfection of the fruit, and should never be removed. The most successful practice which has been adopted is, to take from the last year's wood of the bearing branches a ring of bark about ¾ of an inch in width, that is, to perform what is called *girdling*. This is done the first of July, and the bark is soon renewed, and may sometimes require a second removal. When this girdling is employed, the ends of the branches should not be cut off. The branches treated by this latter method will ripen much sooner than others, and an earlier and later crop may be had from the same vine.

Hanover, N. H. T. T.

Far. Mon. Vis.

Excellent Ointment for Cattle.—Equal parts Venice turpentine and hog's lard, well beaten together.

For the Farmers' Cabinet.

Advantages of Travel.

Mr. Editor,—Having cut my corn, and removed it to an adjoining meadow for the convenience of husking, cleared the ground of the roots, and ploughed and sown it with wheat, I thought I could not do better than put in practice the plan recommended in the Cabinet, and go and see what my friends were doing. Accordingly, one fine morning during this remarkably fine Indian summer, I mounted my horse, and rode across to my old neighbour Curtis's place. I had not seen my friend for many years, but had often heard of him as a tip-top manager, well to do in the world, but rather singular in his system of farming. I found him on a noble farm of 250 acres, which he cultivates with the hand of a master; and after a week spent with him, if I have not returned with the experience which will pay me cent. per cent. for the capital invested in travelling expenses, it will be my own fault.

All hands were busily employed, although his wheat was sown, his corn husked and put safely away, with the stalks snugly built into a stack, adjoining his bullock-houses, and covered with straw—for while one party with a couple of ox-teams were carting a lot of capital rich earth from the roadside, at the bottom of the hill half a mile from home, where it had been accumulating the last year a drainage from several establishments near, where the custom is to permit the washings of their cattle yards to pass away, by the ditch leading down the road, and placing in it a large pen, to the depth of three or four feet, upon which to feed his hogs, fifty in number, during their first season of fatting, and by which it will be trodden and rooted into capital manure for dressing corn-land,—another party was busily employed throwing the contents of a muck-hole on to the dry bank, preparatory to the formation of a magnificent compost-heap, during winter—the straw-yard furnishing the means of converting it into a dressing far more valuable than the best stable dung, more lasting in its effects, and better suited as the food of plants, from the purifying processes of fermentation and pulverization. Two other men were cutting a very wide ditch, or narrow canal, to drain an adjoining swamp, that had formerly been the cause of much sickness, but now, having come into his hands, it will soon be rendered the most valuable spot of his possessions, giving many hundred loads of earth and muck for future dressings, and rendering what had hitherto been a nuisance, a healthy spot of rich pasture—an old quagmire, in which many a beast had fallen and been lost, into a lovely meadow, with a stream meandering through it, and supplying with water a second cattle-yard below.

My friend is a stickler for the theory and practice of top-dressing, in all its variety of application, having followed it for years, and derived ample proof of its efficacy; and offers to cultivate a field in the following manner, the whole to be managed exactly alike in its preparation. One half to be manured, and turned in before sowing with wheat, the other half to be sown at the same time, *without manure;* the same quantity of manure, however, which had been given to the wheat on one-half, to be reserved as a spring top-dressing for the other, after being composted during the winter; and if one-third more wheat, and of equally superior quality, be not reaped from this half the field than on the other, then he will forfeit any sum that might before have been agreed upon. He is also a strong advocate for top-dressing meadows in the autumn and winter, and has a heap of compost ready for carrying abroad, that will cover many acres, by which he argues, the grass will be greatly protected from the frost, and be enabled to make earlier progress in the spring, affording a bite to his cattle a week or ten days earlier at that important season of the year. Like many others of our improvers, he limes heavily, but his mode of application is singular, and appears to have an excellent effect, judging from the herbage which now clothes his fields, of most excellent quality, white clover and green-grass predominating. He spreads his lime thickly on the grass-land the year before he intends to top-dress with compost, and declares that the effect is surprisingly beneficial, the natural herbage springing after, being of quite another species, and peculiarly adapted for fatting purposes; and thus he is in no danger of liming to excess. On a meadow on which he practised this mode of top-dressing, the last year, he has, at the present time, a second growth of the finest verdure, far superior in quality to many of the first crops in the neighbourhood; and the cattle eat the whole indiscriminately, leaving no tufts, as is so usual on meadows at this season of the year.

On my asking if he did not find it expensive, thus to take up and put down, and mix and turn his muck and dung, so often before carrying abroad, he replied—"Certainly: and that is the perfection of the system. When I go to Philadelphia, and see the men in Market street busily packing and preparing for sending abroad their merchandise, I do not hear them complain of the labour and time which it takes. The hope of reward sweetens that, and the more persons they can find employment for, the greater they calculate their profits will be;—it is *labour*, not

leisure, to which they look for remuneration, and I find that this principle works quite as well upon the farm; for the more it costs me for labour, the greater are my profits, and also my *pleasures*—for I love to see fat meadows and fat cattle, and have long been convinced of the truth of that beautiful passage of scripture, where it is said, 'there is, that scattereth and yet increaseth.' I always debit my fields with the labour bestowed upon them, and they never yet have deceived me in the 'promise to pay,' that I receive from them at the time, with compound interest for years after. A *middling* crop never yet paid a *profit;* if it pays *expenses* it is well—and then the farmer enjoys the satisfaction of having 'spent his strength for nought,' thankful that it is no worse; it is the *additional bushel* which constitutes the *profit*—and if that be sufficient, I have carried my labour to a good market; and what can, what *ought* I to expect more? But this doctrine is *Greek* to most of my neighbours."

I was amused to hear one of his neighbours describe his activity and circumspection during the hay and grain harvest; he seemed to be everywhere, urging the men to *cut low*, observing, his profit consisted in the *last half inch* of the grass-crop, and telling them he did not care if they left the top standing, provided they cut the last half inch! remarking of him, that whatever he took in hand was seen to prosper, he was such a *fortunate man;* and then he related what took place at the last sale of sheep in that county, where the drovers demanded a higher price than what was generally supposed to be their value: My friend thought otherwise, and after asking if the neighbours had made up their minds not to purchase? and received for answer, "Yes," bought the whole; telling them he would be glad to sell them as many as they wished for, the next morning, at his farm, and at the price which he had given, *running them out*—that is, not permitting a selection of them; and by daylight the next morning, they had all been taken off his hands, not, however, before he had selected as many as he required for his stock, which happened to be *just the best sheep in the lot!*

During this season of *activity* with my friend, but of *leisure* with many of the rest of us, his other teams were busily employed turning every acre of unoccupied land for winter-fallow, ploughing an extra depth, and laying an inch or two of the sub-soil to the influence of the frosts, to be returned to its bed in the spring, by running back the furrows, preparatory for crossing and working for crops. But I must conclude for the present, and after having *practised* some of my friend's precepts, I may *preach* again.

Nov. 1st, 1841. SUBSCRIBER.

The Dahlia.

THE dahlia is subject to vary so much in different situations and seasons, that great difficulty exists in gaining an accurate knowledge of the merits of each kind, especially of those which have been only seen for one season. The circumstances under which it is grown are also so various, that unless you see the plant, you cannot fairly judge the value of the flower. Much attention is requisite in order, if possible, to find out what particular culture a given plant has been subjected to; for example, whether the shoots have been much thinned, the flower shaded, a great deal of manure given, or none at all, &c. All these circumstances should be inquired into, or how can we expect to get fine flowers from new kinds? The following facts with regard to new kinds of dahlias, should always be borne in mind, before condemning them the second year:

1st. That the seedling plant is much debilitated by propagation, and therefore the flowers are rarely as good the second season as they are the first and third. This circumstance alone accounts in a great measure for the dissatisfaction expressed of late years concerning the merits of new dahlias.

2d. That the best flowers are obtained from those plants struck from the first cuttings produced by the mother plant, notwithstanding that they are seldom as strong as the cuttings that are afterwards produced.

3d. That exciting the roots by a strong heat, early in the spring, and striking the young plants on a strong dung bed, tend to weaken the plants so treated, to such a degree, that they frequently require two or three seasons to recover and regain their original character. Thus it is found, that good flowers are obtained with the least trouble, from those plants kept in pots the first season after striking, planted out the following season, and allowed to start of their own accord.

4th. That in wet seasons manure is frequently very injurious, from its causing the plant to grow too luxuriantly, and thus to produce but few flowers, while in very dry seasons, it is equally beneficial. Much more depends upon a change of soil than upon its composition and quality;—with moderate attention good flowers may be obtained from plants growing in brick rubbish.

5th. That water is a point which cannot be too much attended to. A great difference exists between hard and soft water; but still more depends on the manner in which it is applied—for one or two good waterings are much better than a small quantity given three or four times a week.

6th. That taking up the roots *immediately* after a frost has destroyed the *top*, is the

principal cause of so many roots dying during the winter season.

These facts should always be remembered. They may not only be taken as rules for judging new dahlias by, but may also save from the vexation and disappointment consequent upon the production of bad flowers from new and expensive sorts of dahlias.

Gard. Chron.

For the Farmers' Cabinet.

Wheat Sowing.

Mr. Editor,—I *must* tell you how I managed my wheat land the present season—for, unless I greatly err, you will join me in the calculation, that it is about the best and most likely mode of insuring a crop early at harvest, and free from rust—two considerations of the highest moment.

My land was a clover-lay, from which I mowed two crops of hay of very great weight. They were grown by means of a heavy top-dressing in the spring, consisting of barn manure, hog-dung, and various substances, some of them so fresh and unfermented as almost to make one believe they would not be out of the way of the scythe by hay harvest. But the roller passing over, and the decomposition which followed immediately after—induced, no doubt, by the action of light, air and heat, according to the beautiful theory set forth in some of the late numbers of the Cabinet—left not a particle of it to be seen at the time of breaking up the land, which was done as follows:

First, I ploughed the land with a deep and small furrow, according to your directions, and left it to dry and settle for about three weeks, at the end of which time, the surface had become hard, and to appearance impenetrable. I commenced by passing the harrow once over it in the direction of the furrows, and then sowed the seed, two bushels and a peck to the acre. I then worked it once over with the cultivator, which perfected the business, burying every grain of the wheat, and throwing it into drills as completely as it could have been sown by a machine, with the advantage of leaving a ridge of finely pulverized earth between the rows, to be operated upon by the winter frosts, mouldering and moulding up the plants as neatly as it could be done by hand, forming also a defence to the sweeping and piercing winds while passing over the surface, "cutting it into ribbons," as my next neighbour terms it; and if I say I never before witnessed a sight in my business that so delighted me, I guess you will believe me, for the result has been a plant of wheat of inconceivable beauty, of a deep green colour, lying close to the ground, and curling like young cork-screws—promising to pay, as some one says, for value received, at the rate of 50 per cent. per annum. I declare that this single experiment has worked like a charm upon me; and I await with impatience the arrival of the spring, that I may practise the many other lessons which you are giving us in the pages of the Cabinet—especially that of raising the sugar-beet as a second crop, say, after rye, or perhaps better, after buck-wheat, preparing for manuring them by composting the dung from the barn-yard with rich mould, during the leisure of winter, *secundum artem.*

Mr. Editor, we are indeed only on the threshold of the "Temple of Agriculture;" every day that I live I am convinced of this truth, and the more I *learn* the more I *yearn* to know more. One of your correspondents proposes that we fabricate "facts" for ourselves—a very excellent proposal; in this spirit have I commenced the experiment which I here detail, and have been induced to offer it for insertion in the Cabinet, in the hope that others will go and do likewise.

With every good wish, and perfect esteem, I subscribe myself, Still a Learner.

Nov. 30, 1841.

P. S. Will those who have grown Hessian flies the present year, inform us of their whereabouts.—I have not one, even as a sample!

Summer's Gone.

Hark, through the dim woods dying
With a moan,
Faintly the winds are sighing—
Summer 's gone—
There, when my bruised heart feeleth,
And the pale moon her face revealeth,
Darkly my footstep stealeth
To weep alone:
Hour after hour I wander
By men unseen—
And sadly my young thoughts ponder
On what hath been;
Summer 's gone!

There in our own green bowers,
Long ago,
Our path through the tangled flowers
Treading slow;
Oft hand in hand entwining—
Oft side by side reclining;—
We 've watched in its crimson shining
The sunset glow.
Dimly the sun now burneth
For me alone,—
Spring after spring returneth,
Thou art gone.
Summer 's gone!

Still on my warm cheek playeth
The restless breeze:
Still in its freshness strayeth
Between the trees,
Still the blue streamlet gusheth—
Still the proud river rusheth—
Still the calm silence husheth
The heart's disease.
But who shall bring our meetings
Back again?
What shall recall thy greetings
Loved in vain?
Summer 's gone!

To the Editor of the Farmers' Cabinet.

Corn-Hauling Machine.

Dear Sir, — Much of the usefulness of agricultural implements is lost to the community in not having a full and proper account given of the manner of using them.

I am friendly to all labour-saving implements, and would desire to see brought into practical use all such as are economical and within the reach of ordinary farmers. The machine to which I now have particular reference, is the one figured at page 73, 5th vol. of "The Farmers' Cabinet," Mr. Cooper's, for removing corn-stalks. On reference to the letter-press this sentence occurs, "By such, a lad may of himself, clear the heaviest crop in a very expeditious way, and in the most easy manner imaginable." Now the *mode* of using the machine is not given; if it is intended that it should be backed up to each shock or stack, after having been set up in the field, and the rope drawn over or around it, and by the lever at the windlass to haul away till the frame—as it appears to be on hinges—together with the shock is brought over on the shafts, then it is easily understood. But if so, can but one shock be taken at a load? By that mode, I should not think it would be a very *expeditious* way, although done in the most easy manner imaginable, for if the field of corn is cut up at the ground, and it is designed to carry away stalks, corn, and all together to the barn or some convenient place to husk, where, may be secured and put away the corn in the house and the stalks at once under cover, as they should be, and the field was half a mile off, or only a fourth, I take it, it would be a very tedious operation. My object, however, is not to criticise nor find fault, but to gain information on the subject, as I am anxious to know the best mode of clearing a field after the corn is cut up, because I think *wheat should follow corn, and not oats.*

Should it be in your power to give the desired information in the next, or some subsequent number of "The Farmers' Cabinet," it will oblige one, if not

Many Subscribers.

Manheim Township, Schuylkill Co., Penn.
Nov. 27, 1841.

Mr. Benjamin Cooper, of Camden, New Jersey, has had the Corn-Hauling Machine in use about fourteen years, and finds that a lad 15 years of age is capable of clearing by it five acres of corn a day, much, of course, depending upon the distance to which it is hauled. His corn is always very large, but this makes but little difference in the time requisite in the employment of hauling, the shocks being formed large, say from 20 to 30 feet in diameter, closely built and carefully bound; then the work proceeds very rapidly.

Our correspondent has described, very exactly, the mode of using the machine, which he has clearly understood from the examination of the print at page 73 of our 5th volume; the very act of hauling away at the windlass bringing over the corn and frame on the shafts, where it is fixed by the rack-wheel, which only requires to be liberated on arrival at the place of destination, when the corn, by being lifted at the top with the lever, takes the exact position it occupied in the field, the weight of the butt-end bringing it quickly to the ground, and leaving it standing perfectly upright; and it is only the work of a minute to free the rope and proceed for another load. Thus it is by no means a tedious process to clear a field, especially if two machines are used, when the distance is great or the field very large.

It is particularly refreshing to find our valued correspondent advocating the removal of the crop to the barn preparatory to husking, where may be secured and put away, the corn in the house and the stalks at once under cover, *as they should be*, and after that, to sow the land to wheat and not to oats! That is the way to raise grain rather than straw, and to protect the crop, as far as may be, from the fly, the mildew, and the rust; all which advantages might be calculated upon, even in seasons which, otherwise, would entail upon the cultivators of this most important of all crops, diseases which are frequently incident to an improper course of crops and the injudicious use of unfermented manures. But upon such a light and pulverized seed-bed as is afforded by a well-worked corn-stubble, we would recommend the mode which has so often been found of incalculable benefit to the wheat crop—namely, to defer sowing the seed until the land has been ploughed a sufficient length of time to become firm and well-settled, and if rain intervene, so much the better, awaiting, however, the soil to become dry and workable under the harrow, never fearing the delay even of a fortnight on this account. On such a soil, enriched by a heavy manuring for the corn, but not rendered light and over-luxuriant by a dressing of barn manure, coarse and unfermented, with the view of returning to the earth that vigour of which it had been despoiled by a crop of oats—a plant which feeds *precisely* on the pabulum best adapted to the wheat-crop—a larger quantity of seed may be sown, and a consequent heavier crop may be reaped, sufficiently strong to stand up and ripen a week earlier in the season, which circumstance alone will often be found a preventive of rust. No wheat need be more than four feet high in the straw; all the growth which it attains above that, is acquired at the expense of the ear. — Ed.

"From upwards of 20 years' experience, I am of opinion that the best way of sowing clover lands with wheat is, to plough the land ten or twelve days before you sow it, that the land may have time to get dry, and after rain to work well. I am at a loss to account for this, but I have often tried this mode against that of sowing on fresh ploughed lands, and *always* found the former to answer best."—*Macro.*

The humblest and most laborious condition in society needs not be miserable. "To labour and to be content with that a man hath, is a sweet life!"

No End to Improvement.

He that believes agriculture is perfect, and that we have nothing to do but pursue the old and beaten track, as blind animals move round the tread mill, deserves our compassion. Nature proclaims that neither agriculture, nor any other branch of natural science, can ever become perfect. The mind of man is capable of indefinite improvement, so are all the productions of nature. For examples, look at the valuable plants in the condition in which they were first found in their native woods. The various kinds of corn, potatoes, cabbages, fruits, &c., were all, before they were touched by the finger of culture, as unlike what they now are, as different species are unlike. They are all susceptible of continual improvement, all ever running into new varieties. It is not long ago, that the potato was a useless, unhealthy vegetable in the woods of South America, where it was first found; but it has been so changed by the hand of care and industry, as to become large and healthy, and now supplies food for more human beings throughout the earth, than any plant, save corn and rice, and is no doubt destined to as much future improvement as it has received in the past. Compare the maize, or Indian corn, as first seen in the feeble stalk and slender roasting ear around the wigwam, with its hundred varieties in its present maturity, yielding in value its countless thousands to national wealth. And we are just now beginning to see the improvement of which this valuable plant is still susceptible.

The succession of the seasons—the calm—the storm—the course of the winds—the revolution of the heavenly bodies—the nature of the earth—the food of plants—the influence of water, light, heat, and air, on the growth of vegetation—the proper composition of the various soils to furnish the greatest amount of production, will ever be subjects too broad for the full grasp of the most profound philosophers, and in the unfathomable profundities of which, new discoveries will be made as long as this frame of nature shall endure.—*Me. Farmer.*

Economy of Agriculture.

There is no subject less understood nor more generally mistaken than this; nor any more essential to the prosperity of agriculture. Sufficient to afford matter for an entire treatise, it cannot be embraced in a short chapter. But a short chapter may put minds upon the track, able to unfold its involutions with every branch of agriculture, and more especially to disclose its value.

Diminutions of comforts, necessaries and expense, are too often mistaken for the means of producing the ends they obstruct; and the rapacity which starves, frequently receives the just retribution of a disappointment, begotten by a vicious mode of avoiding it. From the master down to the meanest utensil, the best capacity for fulfilling the contemplated ends, is invariably the best economy; and the same reasoning which demonstrates the bad economy of a shattered loom, will demonstrate the bad economy of a shattered constitution, or an imperfect state of body. The cottagers who inflict upon themselves and their families the discomforts of cold houses, bad bedding, and insufficient clothing, to acquire wealth, destroy the vigour both of the mind and body, necessary for obtaining the contemplated end, at which, of course, they can never arrive. The farmer who starves his labourers, is a still greater sufferer. He loses the profits produced by health, strength and alacrity; and suffers the losses caused by disease, weakness and dejection. In like manner, the more perfect, the more profitable are working animals and implements, and every saving by which the capacity of either to fulfil their destiny in the best manner, is diminished, terminates with certainty in some portion of loss, and not unfrequently in extravagant waste. Even the object of manuring is vastly affected by the plight of those animals by which it is aided.

A pinching, miserly system of agriculture may indeed keep a farmer out of a prison, but it will never lodge him in a palace. Great profit depends on great improvements of the soil, and great improvements can never be made by penurious efforts. The discrimination between useful and productive, and useless and barren expenses, contains the agricultural secret for acquiring happiness and wealth. A good farmer will sow the first with an open hand, and eradicate every seed of the other.

Liberality constitutes the economy of agriculture, and perhaps it is the solitary human occupation, to which the adage, "the more we give, the more we shall receive," can be justly applied. Liberality to the earth in manuring and culture is the fountain of its bounty to us. Liberality to labourers and working animals is the fountain of their profit. Liberality to domestic brutes is the fountain of manure. The good work of a strong team causes a profit beyond the bad work of a weak one, after deducting the additional expense of feeding it; and it saves moreover half the labour of a driver, sunk in following a bad one. Liberality in warm houses, produces health, strength and comfort; preserves the lives of a multitude of domestic animals; causes all animals to thrive on less food; and secures from damage all kinds of crops. And liberality in the utensils of husbandry, saves

labour to a vast extent, by providing the proper tools for doing the work both well and expeditiously.

Foresight is another item in the economy of agriculture. It consists in preparing work for all weather, and doing all work in proper weather, and at proper times. The climate of the United States makes the first easy, and the second less difficult than in most countries. Ruinous violations of this important rule are yet frequent, from temper and impatience. Nothing is more common than a persistence in ploughing, making hay, cutting wheat, and other works, when a small delay might have escaped a great loss, and the labour employed to destroy, would have been employed to save. Crops of all kinds are often planted or sown at improper periods or unseasonably, in relation to the state of the weather, to their detriment or destruction, from the want of an arrangement of the work on a farm, calculated for doing every species of it precisely at the periods and in the seasons most likely to enhance the profit.

A third item in the economy of agriculture is not to kill time by doing the same thing twice over. However laboriously at work, we are doing nothing during one of the operations, and frequently worse than nothing, on account of the double detriment of tools, teams and clothing. The losses to farmers occasioned by this error, are prodigious under every defective system of agriculture. Shifts and contrivances innumerable are resorted to for saving time, by bad and perishable work, at an enormous loss of future time, until at length the several fragments of time thus destroyed, visibly appear spread over a farm, in the form of ruined houses, fences, orchards and soil; demonstrating that every advantage of such shifts is the parent of many disadvantages, and that a habit of finishing every species of work in the best mode, is the best economy.—*Arator's Essays.*

Span-Level for Draining.

It is necessary to relieve lands from superfluous moisture before they can be made productive. Many soils are underlaid with a retentive sub-soil, and these are of the kind to be most benefited by the operation; and thorough draining will often quadruple the product, and indeed it is calculated to render lands, now productive only of noxious weeds, the most fertile in the country. In open drains it has been found by experience, that to carry off the water effectually, a fall of three inches in fifteen is necessary; and to guide in effecting this object, the common span-level is in general use. The feet are placed exactly fifteen feet apart, with one of them three inches shorter than the other. The instrument is now placed upon a perfect level, and the place where the bob-line falls on the cross-piece is marked plainly. This falls, of course, out of the centre, one leg being shorter than the other. It is only then, to set the shortest leg of the level in the direction I wish the water to run, and lower it until the line of the bob falls on the mark on the cross-piece, and then I have, of course, a fall of three inches in fifteen feet; then, by moving the long leg or foot of the level to where the short one stood before, and by making the bob play in its place, on the cross-piece, the regular fall is contrived in the shortest and easiest way imaginable. This very simple and efficient instrument may be placed in the hands of any man of the plainest understanding; and in forming water-furrows across sown lands, preparatory to the carrying off winter rains and snow-water, it will be found a most valuable auxiliary.

Southern Planter.

New Mode of Grafting.

Mr. Downing, of Newburgh, has lately practised with success, a new mode of grafting, the object being, to test the quality of fruits raised from seeds in a shorter period than would be possible by permitting such seedlings to stand until their natural time of bearing. The method is, to put the top of a shoot from a seedling tree, or a new variety, when it is desirable to procure a specimen of the fruit immediately, upon the top of a thrifty shoot of a middling aged and fruit-bearing tree: the process being simply to take thrifty shoots, about a quarter of an inch in diameter, and cut them in a slanting manner clear through, so as to detach about four inches of the top from the rest, making the line of the angle about an *inch*—the stock being cut in the same manner. The backs are then to be carefully united, and bound up with yarn, covering the whole with grafting wax, to exclude the air. By this mode, fruit may be obtained in a short period, so as to test its value at an early day—the operation being simple, with scarcely a fear of failure.

Hort. Mag.

Scalding Milk.

The Devonshire mode of managing milk, whether intended for the churn or otherwise, is, to scald it immediately as it is strained from the cow. After this operation it does not sour so soon even in summer; and if it is intended for butter-making, you have sweet milk for family use, after the cream is taken off. In winter, the cream that is taken from scalded milk will not require more than fifteen minutes' churning to bring it into butter.

For the Farmers' Cabinet.

Shell Lime-Kiln.

Mr. Editor,—A stranger to you, but one to whom *you* are not a stranger, addresses you for the purpose of asking information with regard to a kiln for burning *oyster shells* for manure. I own a small farm near this city, and am anxious to improve it *permanently*, which I do not think can be done without calcareous matter. I am highly pleased with your description of a kiln for burning stone-lime, at page 46, vol. 4, Farmers' Cabinet, and wish to know whether the same model is the best for burning oyster shells, and whether it is absolutely necessary that it should be egg-shaped—the only objection I have to the shape is, that we cannot get suitable stone on the land, and where brick is used, it will require some iron-work to bind and support the kiln made in that shape, which will make it more expensive. Now, sir, without going *farther around Robin Hood's barn*, I have never seen a lime-kiln, and I do not believe there is one in this state. Will you take the trouble to describe such an one as you think will suit the particular case—the smallest that would *burn well* would suit best, as it would be cheaper and more convenient. Farther, will you also state what you think would be its *probable* cost, if brick would answer, estimating the bricks at $6 per 1000, and labour at $1 per day. Finally, you can imagine what a young and inexperienced farmer wishes to know, even better than he can describe, especially when he feels a diffidence in thus troubling you. I am satisfied that any instruction you may give, or advice you may offer on this subject in your next number, would be highly prized by very many of your subscribers, especially those living within reach of shells. Wishing you every success with your valuable work, (which I would not be without for five times its cost) I remain, your's very truly, A. B. Shelton.

Richmond, Va., 22 Nov., 1841.

P. S. Having already purchased and hauled between 1 and 2000 bushels of shells, an answer in your next No. would be gratefully remembered. Please also state, whether if a pit is dug on the side of a hill, the brick or stone must be laid with lime-mortar or otherwise.

We do not hesitate to recommend the egg-shape, for the purpose of calcining shells or any other substance for lime, by perpetual or running kilns. The dimensions need not be more than 5 feet diameter in the largest part, or even smaller than that; the proportions, however, must be observed, so that the top shall be smaller—say as five to seven. The *principle* being correct, it will be found to work well under all circumstances. The drawing-in of the top causes a reverberation of the fire, and prevents the heat from flying off too rapidly, saving thereby a great cost of fuel; a temporary cone on the top of the kiln might be added in stormy weather, which will break the force of the wind and secure a good draught of air from the bottom.

The kiln should be built in a bank or hill-side, the hole excavated being exactly eighteen inches in diameter larger than the brick-work; thus it will be perfectly formed, by merely laying in the bricks lengthwise, the proper range being given very exactly by the excavation, which, it need not be added, must be very carefully performed. In this case, the bricks will require no mortar in laying, a portion of clay-puddle being poured in at the back of each course, to fill up interstices and inequalities, as also to raise the ends of the next course of bricks when the arrangement from a larger to a smaller circle commences. Clay stands the fire better than lime-mortar, but the bricks lie much firmer without either the one or the other. The front of the kiln may require another course of four inches brick-work outside, but no iron-work will be necessary for its support. The kiln should be charged and burnt so soon as finished and before the work has hardened; it will then expand without cracking, the bricks moving easily in their beds and offering no resistance—an important consideration, and applicable to all fire-work, particularly in the setting of large boilers, &c. When our correspondent has determined on the site for his kiln, and the size which he shall choose, any bricklayer will be able to count the cost to a fraction.—Ed.

A Brilliant Stucco Whitewash.

Take clean lumps of well-burnt lime, (say five or six quarts,) slack the same with hot water in a tub, (covered to keep in the steam,) pass it in the fluid form through a fine sieve; add one-fourth of a pound of whiting or burnt alum, pulverized; one pound of good sugar; three pints of rice flour, made into a thin and well-boiled paste, and one pound of clean glue, dissolved by first soaking it well, and then putting it into a small kettle, which should again be put into a larger one filled with water, and placed over a slow fire. Add five gallons of hot water to the whole mixture.

This wash is applied with a painter's brush, where particular neatness is required. It must be put on while warm, if upon the outside of the building—if within doors, cold. It will retain its brilliancy for many years. About one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. If a larger quantity than five gallons is wanted, the same proportions must be observed in preparing. Colouring matter may be added to give it any required shade.—*Genesee Farmer.*

Contents in acres of England, Scotland and Wales.—England, 31,929,340. Scotland, 18,943,720. Wales, 4,320,000. Total, Great Britain, 55,193,060.

Culture of Wheat.

Colonel Le Couteur, of the Island of Jersey, has recently made some important discoveries in the propagation of wheat plants, their adaptation to peculiar soils both natural and artificial, and, in the whole process, of obtaining the greatest amount of the best flour at the least expense of land and labour.

He has succeeded in producing, by crossing the different kinds of wheat formerly cultivated, over 150 varieties and sub-varieties of this grain. He commenced his experiments some six years ago, by selecting a few of the best heads of wheat from fourteen of the most esteemed varieties cultivated in England. The kernels in these heads were all carefully counted and planted in separate parcels, and treated alike in every respect as to soil and culture. The result demonstrated an astonishing difference both in the productiveness and quality of these several varieties of wheat. No kernels were counted except such as grew, and the experiment was most satisfactorily conducted in every respect. Sixty-one grains of white Dantzic gave 3 lbs. 3 oz. of wheat, and 3 lbs. 9 oz. of straw; whereas 59 grains of what had been regarded as a choice variety of red wheat gave only 1 lb. 10 oz. of wheat, and 2 lbs. 5 oz. of straw. No. 8, a downy variety of white wheat, gave 4 lbs. 4 oz. of wheat, and 3 lbs. 3 oz. of straw, from 55 grains. The experienced wheat-grower in this country would be rejoiced to cultivate a variety of wheat which would yield him a good crop of straw bearing an amount of grain *one-third larger in weight* than the straw itself. And yet this was obtained at the first experiment, as stated above.

The author selected five or six of the best varieties of these 14 several parcels, and cultivated some of them at great pains in their pure state, while he commenced a judicious system of crossing with others, for the purpose of producing new varieties superior to any of them. In this he was quite successful. To prevent mistake and undesirable mixing of different varieties of wheat when in blossom, one pistil on a head was preserved, while all the pollen was carefully removed. This pistil was fructified by the selected pollen, and only one kernel was produced, which, when planted, sometimes yielded 1,600 kernels of the new variety. By pursuing this course for a series of years, and cultivating his seed wheat by itself, and propagating from those kinds only which produced the most and best flour with the least bran, Colonel Le Couteur now obtains over *twenty-four hundred pounds of superfine flour* to the acre, and his wheat is so very thin-skinned that 52 bushels grown upon an acre give only 542 pounds of bran, middlings and shorts. A hundred pounds of the flour of his improved wheat will make, as repeated and most careful experiments have demonstrated, from 6 to 12 per cent. *more* good bread than the same quantity of the best common flour in the market.

It is estimated that there are five millions of acres sown to wheat annually in Great Britain; and it is considered quite practicable to increase the product without any additional expense, eight bushels an acre, or forty millions in the aggregate. This would more than supply the home consumption, and enable the British nation to export many millions of bushels of wheat. How important is it then, that the producers of this great American staple should fully understand the best method of its cultivation, to compete successfully with the science and skill of English husbandry! The struggle hereafter between civilized nations in agriculture, manufactures, and war even, will depend far less upon superiority in mere physical force, than the combinations and deductions of practical science. The steam-power of Great Britain performs an amount of labour, which, if executed by human hands, would employ all the able-bodied men in the world. The vegetable, mineral, and aeriform ingredients which combine in nature and can be brought into contact by art, for the production of the most valuable wheat, ought to be studied and thoroughly understood by every cultivator of the soil.—*Buff. Com. Adv.*

Money.

"An infinite variety of commodities have been used as money in different countries and periods. But none can be advantageously used as such, unless it possesses several very peculiar qualities. The slightest reflection on the purposes for which it is applied, must indeed be sufficient to convince every one, that it is indispensable, or at least exceedingly desirable, that the commodity, selected to serve as money, should (1) be divisible into the smallest portions—(2) that it should admit of being kept for an indefinite period without deteriorating—(3) that it should, by possessing great value in small bulk, be capable of being easily transported from place to place—(4) that one piece of money of a certain denomination, should always be equal in magnitude and quality to every other piece of money of the same denomination—and, (5) that its value should be comparatively steady, or as little subject to variation as possible. Without the *first* of these qualities, or the capacity of being divided into portions of every different magnitude and value, money, it is evident, would be of almost no use, and could only be exchanged for the few com-

modities that might happen to be of the same value as its indivisible portions, or as whole multiples of them: without the *second*, or the capacity of being hoarded without deteriorating, no one would choose to exchange commodities for money, except only when he expected to be able speedily to re-exchange that money for something else: without the *third* quality, or facility of transportation, money could not be conveniently used in transactions between places of any considerable distance: without the *fourth*, or perfect sameness, it would be extremely difficult to appreciate the value of different pieces of money: and without the *fifth* quality, or comparative steadiness of value, money could not serve as a standard by which to measure the value of other commodities; and no one would be disposed to exchange the produce of his industry for an article that might shortly decline considerably in its power of purchasing.

"The union of the different qualities of steadiness, of value, divisibility, durability, facility of transportation, and perfect sameness in the precious metals, doubtless formed the irresistible reason that has induced every civilized community to employ them as money."—*Am. Far.*

Great yield of Potatoes.

"In 1839, the late Major Caleb Stark planted potatoes (the large round red) on several small patches of ground in Suncock village in the town of Pembroke; he planted them without assistance and hoed them three times himself. They were planted in drills, one piece (cut) every ten inches, and when he dug them in the fall, they were weighed, and he proposed, from the result, the following questions to Hon. John Vose, then preceptor of Pembroke Academy. I find the questions and answers among some of his papers, and send them to you.

QUESTIONS.

1st	portion,	168 square feet,	produced	126	pounds.
2d	"	147 "	"	138	"
3d	"	18 feet square,	"	384	"
4th	"	43	"	1435	"

ANSWERS.

1st	portion,	per acre,	32,670 lbs.	605 bushels	per acre.
2d	"	"	41.745 "	773.055	"
3d	"	"	51,626 2-3 "	956.349	"
4th	"	"	33,806 "	426.05	"

The above results were brought about by Mr. Brown: of their accuracy, I have examined them, so as to be satisfied they are correct. I witnessed the progress of the growth of the potatoes, and the average weight of them was 54 lbs. per bushel. John Vose."

Far. Mon. Visitor.

On old mossy land, or, when the grass is rank and sour, a good coat of lime will entirely change the nature of the herbage.

For the Farmers' Cabinet.

Utility of Shell-Marl.

Mr. Editor,—At your request, when in our little State a few days ago, I send you a short statement of the effects of this invaluable manure. The shell-marl, which is found in New-Castle county, State of Delaware, has been discovered on a few farms along the eastern limit of the Chesapeake and Delaware canal only, or that part of the canal which has defaced a part of the original St. George's creek. It is generally found at the head of little streams making into this creek, which is the dividing line between Red Lion and St. George's hundreds. Marl has been discovered in both hundreds, but much the largest quantity has been found and used in the former hundred, although it has only been a few years since there has been any general use made of it. In the spring of 1837, I came into possession of a farm, now known by the name of *Marl Farm*, about three miles west of where I reside. The soil, at that time, was in an extreme state of poverty—reduced to that degree by successive cropping and hard tillage, through a long term of years, without the application of any kind of manure; in fact, the whole farm was so poor, that the crops obtained from it would not pay the cost of tillage. From four to six bushels of corn per acre on an average, was as much as it would produce; of wheat you could not raise as much as you sowed; red clover would scarcely sprout, and grow it would not. Now, the question may be asked, how came I to purchase a farm so extremely poor? A large bed of this shell-marl had been discovered on it, three or four years previous to the time that I came into possession, but it had been sparingly made use of; some two or three acres only having been covered with it, for an experiment, at the time when the discovery was made.—Thus the improvement by the marl, progressed no farther, until I came into possession. But the effects of the above experiment were sufficient to satisfy any inquiring mind, of the vast importance of this new manure for enriching the soil. To till this farm in its extreme poor state, I well knew would not pay expenses; I concluded, therefore, that the first thing to be done, would be to marl it over, and then go to cropping. Accordingly, I hired a man for the season, furnished him with a cart and two yoke of oxen, and made it his business to do nothing but cart marl, until I had covered the whole place over, at the rate of from six to eight hundred bushels per acre. What I would get covered over one year, I put in corn the next; and would obtain about twenty bushels per acre. The corn-ground was followed the next spring

with oats and clover-seed; the oats were better in proportion than the corn—the effects of the marl beginning to be greater; while the effects on the grass were still plainer;—and wherever the red clover was not regularly sown, (for in some places the seed did not meet,) in all such places the land would be coated thickly with white clover. We had been once over the place with marling and tilling, as I have mentioned, and last winter I commenced marling it over with the second dressing, on a clover sod, at the rate of three hundred and fifty bushels per acre. The land I had in corn this year, was a clover sod with the second coat of marl. This piece of ground was the very poorest of the farm, in the first instance; but the result is, (for we have just finished husking it,) from forty to forty-six bushels of corn per acre, and that too, of as good and sound a quality as any of our best land in the neighbourhood, such as has been under a high state of improvement for the last twelve years, with stone-lime and barn-yard manure. In order that I might come to some accuracy as to the quantity of corn, I measured one acre, and measured the corn also—the result was, forty-six bushels; other acres could have been selected which would have gone to fifty bushels, and probably more.

The second year after I commenced farming where I now reside, I made an experiment, by top-dressing with marl the yard in front of my house, which was at that time a clover sod. The result is surprisingly great; so that I challenge a competition with any other kind of manure of equal expense. It is now about five years and six months since the marl was put on; the yard was all marled over, except about thirty feet square; on the part which was marled, the clover thickened up, and the green grass soon began to make its appearance; and at this time it is quite thick-set with green grass. The part which was not marled has no green grass, and the quantity of clover has decreased; there is at least more than four times the quantity of grass on one than on the other. The marl for the yard was brought from my marl-farm, about three miles distant; but, about three years ago, and after much research, I discovered marl on my farm where I now reside. My observations from its effects, prove it equal to the first marl. A part of a field which I mowed the present year, was marled two years ago last spring—the balance of the field being covered over with barn-yard manure, at the same time. The whole field was then put in corn, and the next spring sowed with oats and clover-seed, and this year it was mown: the difference in the grass in favour of the marl over the manure, was in the ratio of three to one. This appears large, but if it should be doubted, I can produce testimony to confirm all I say; or I will here give a cordial invitation to any person to come and see for themselves. I could say much more about the effects of this species of manure, by noting the results of various experiments, made by many of my neighbours, who have been making free use of it.

Thus, you will perceive, that this land on the marl-farm has been redeemed from an extreme state of poverty; and with no other kind of manure than the shell-marl, has been brought to produce forty-six bushels of corn per acre, in the short space of four years.—Now, I do not intend to let it rest at this: the marl must go on the land faster than ever, and my course in future will be, to top-dress heavily on young clover; and I see nothing to prevent me from bringing this land up to yield the largest of crops, so soon as I can get it covered over with the third and fourth dressings; and this I do not intend shall be a very distant day. One great and important quality in the character of this marl is, that the *first* dressing will not be done giving out its strength or renovation to the soil, under six or eight years, while every subsequent dressing will have the same effect; and when the land is once made rich by it, it will remain stationary at that degree for twenty years. I consider the marl on this farm almost as convenient to it as the manure made in the cattle-yard, for we can drive the team into the pit, and load half the marl from the bank, without previously excavating it.

I have here only spoken of the value of our inexhaustible resources for manure—of the other and many advantages which nature has blessed our section of country with, I need say nothing, as you have favoured us with a visit, and have seen for yourself. But I would take the opportunity to say to your correspondent, G. M., who says in the last number of your valuable paper, that he is somewhat desirous of quitting the mercantile business, and becoming a farmer, before he purchases elsewhere, I wish him to come and see this part of Delaware; we have plenty of room, and should he deem it advisable to visit our neighbourhood, what feeble information I can give him, he shall be welcome to.

Yours, respectfully,

PHILIP REYBOLD, JR.

Fair Mount Farm, near St. George's.—Nov. 30, 1841.

Pumpkin-Seed Oil.—The Germans, on the Wabash, make oil from pumpkin seeds, which they use for the purposes of lamp and other oil. One gallon of seed gives about half a gallon of oil. They may be pressed like flax or rape seed.

For the Farmers' Cabinet.

Trial of Ploughs.

Mr. Editor,—As it has been proposed to Mr. Prouty to give a day's ploughing to ascertain the value of the Centre-draught Plough on different soils and situations, and which proposal that gentleman has accepted, offering the use of a plough and pair of horses at any time and place that might be agreed upon by a committee appointed by the Philadelphia Agricultural Society, I thought it might be interesting to the agricultural community to know how such trials are conducted in England and Scotland, where no expense or pains are spared to test the value of this all-important implement, the plough. And although the proposed trial before the committee, to be appointed at no distant day, is to be confined to the centre-draught plough, with the view to test its powers in different soils, whether light or heavy or gravelly, sod or fallow, &c., and especially to the laying its furrow flat, as well as to any angle given, yet the account of a late trial in Scotland—although it was for a different purpose, namely, a trial between several ploughs offered for competition—must still be interesting to a great majority of your readers, who are not aware of the operation as it is performed in a country where, to the single act of turning the soil to a depth which we in this country can scarce have any idea of, is to be attributed much of the success attendant on their labours.

The trial was made by the Marquis of Tweeddale, at Yester, the dynamometer used being one on Reguin's principle, satisfactory to all.

The marquis observes, "It has always appeared to me that the only rational and profitable manner of trying whether the English ploughs were lighter in draught, superior in strength, more efficient in doing their work, as well as more economical to the farmer, was to make them work in the same field with any of the common improved Scotch ploughs, those which I employ being of the variety commonly called Small's Plough. The operation which afforded the trial was crossing stubble land that had been drained during winter, but which had become excessively dry and hard; in this field some trees had been taken out by the roots. On the first day, five Scotch wooden ploughs with iron mould plates on Small's principle were drawn each by three horses, the ploughmen guiding them and holding the ploughs. The work was well done, the depth of the furrow was from *twelve* to *thirteen* inches, the breadth, from ten to eleven. During the day and the previous night, as well as the following night, rain fell, which moistened the land, and I ordered the English ploughs to be tried the next morning, when my steward feeling anxious to bring the English ploughs to their work by degrees, yoked them first with a pair of horses each, putting Ransome's plough with wheels to the depth of eight inches only, but it neither could throw the furrow-slice over, nor clear the furrow, the beam not allowing the plough to go deeper without scraping the ground; and in ploughing, where some small fibres of a tree-root were left in the ground, the coulter was broken in two, the sock was broken also, and the beam and mould-board were separated from the stilts or handles, without the horses being put fully to their strength. The same pair of horses were then put to a Scotch plough, and as soon as they had cleared out the preceding furrow, they ploughed 12 inches deep by 10 in breadth, passing through every obstacle until the morning's work was finished. In the afternoon, the same ploughman tried Hart's swing-plough, but it would neither go the depth nor clear the furrow like the Scotch ploughs. I was in the field on this occasion—in passing amongst some small fibres of the root of a tree, the iron plate that is attached to the beam for holding the coulter was broken to pieces, and the screws were drawn out. I then desired the ploughman to clean out the furrow with the Scotch plough and give the horses their full swing—the plough was brought up once by a root, the horses laid their full weight on it and were held fast; I then sent for another horse and bade the ploughman not to spare the plough if it met with opposition; it however carried every thing before it, notwithstanding the roots, stones, &c., through which it had to pass. Of these two ploughs, Hart's has proved itself to be of the strongest construction and the plough that can throw over the deepest furrow-slice, but it does not clean the bottom of the furrow; Ransome's being the best for this, when ploughing lea, but both appear to do their work best when going slowly. To those who saw these ploughs in operation, it was quite evident that neither of them would do all the work performed by the Scotch ploughs; and in addition to this, I have never found the Scotch horses wanting in strength to perform any work required of them when put to a Scotch plough on Small's principle. From these trials, I feel convinced that the English ploughs are not lighter in draught, equal in strength, so efficient, nor so economical as Small's Scotch Plough."

Now, having had experience in the use of Small's Scotch plough, I must remark, they are so sharp at the breast, narrow at the heel and long in the sole or foot, that by their long and wedge-shape, they are calculated to overcome obstacles which would *overcome* the

best plough of other make that was ever fabricated, but they do not *cultivate* the soil, neither do they lay the furrow-slice *over*, nor leave a furrow wide enough in which the furrow-horse can travel; it is true they make clean work, but it is merely half-turning the land, and not, properly speaking, ploughing it; and they remind me of the Dialogue between Frank and his Father, at p. 242 of the 4th vol. of the Cabinet, where it is said, in reference to the subject of ploughing, and while speaking of a particular plough, made very much after the plan of Small's Scotch plough, "As there is so little resistance against the mould-plate, in consequence of the small furrow we carry, and the manner in which it leaves it, setting it on edge or nearly so, and not turning it over, I am inclined to believe that to this circumstance is to be attributed a part, at least, of its good name; to be sure the great length of the beam and handles gives great facility for guiding it straight and steadily, but do you remark the very narrow furrow which it leaves in which the furrow-horse has to walk, and how he treads down the land-side of it with two of his feet, because there is not room for him to walk in the furrow? neither is there room for the furrow-slice when it is turned, for it lies so nearly on edge, as to leave a seam or channel, from whence the weeds will spring with redoubled vigour, if the land is left, even for a short time, unploughed." But the subject is so interesting and can be made so very *understandable* to every one at all accustomed to the practical use of the instrument, that I must defer until the next number, any further remarks, promising, however, to show that that is the best plough which cultivates the land best, without exclusive regard to its going the easiest; nor is it necessary to look to a plough for grubbing up "roots of trees," which the Scotch ploughs are said to do; all this can be done much better with the axe and the mattock or the subsoil plough, which is made expressly for the purpose—no man of common sense and practical knowledge would put a favourite plough to such a ridiculous purpose, but would get a Subsoiler at once and save a valuable instrument from wanton destruction. J. M.

Dec. 1, 1841.

A Vermont Oat Crop.

"I WILL give you a brief statement of my oat crop on four acres of land. In the season of 1839 my land was ploughed up in the sward. In the month of May, 1840, it was ploughed and thoroughly harrowed; then twenty loads per acre of good manure was spread, and turned in to the depth of four inches and harrowed down smooth. Then the four acres were planted to potatoes, and I harvested 977 bushels from the lot. In the spring of 1841, the land was ploughed once and sown with oats, 4 bushels to the acre; the crop stood well, and but few lodged. The piece was reaped and the oats bound in bundles so large that it was difficult in many instances to stack twelve bundles in a stack; the result was, 588 stacks of 12 bundles each.

"DRANCES JUNE."

The editor of the Farmers' Monthly Visitor, on comparing the above account with a remarkably large crop which he himself had raised on the same quantity of land, remarks—"The quantity of the Vermont crop of oats would seem to be incredible; we have threshed four loads of our oat crop, and find the product 90 bushels, making at the rate of not quite 70 bushels per acre; the crop might have been somewhat larger if double the quantity of seed had been sown and the oats had stood up firmly; but if the bundles of the Vermont crop were the size of ours and as full heads, the produce could be hardly less than 150 bushels to the acre! Practical farmers will be able to judge whether it be possible to obtain so much from an acre. Mr. June sowed sixteen bushels of seed where we sowed only six, but if the Vermont crop of oats have mounted up to 150 or even 130 bushels to the acre, it will be such a crop as has been seldom witnessed in this or any other country."

Curious Exportations.

THE people of the United States are essentially an agricultural people. Yet how often has the singular spectacle of importing from Europe bread stuffs for our own citizens, been exhibited within the last few years. The tide has changed, and the current is setting now in an opposite direction. Cheese from New York has been sold in the Liverpool market in large quantities recently. During the last week, over 1000 kegs of lard were taken up in this city for exportation. The amount of flour constantly going abroad is very large. It assists to pay off our indebtedness to Europe for the millions of luxuries we import.—*Philad. North Amer.*

We heard it stated, a day or two since, that one of our largest merchant vessels has been loaded with an entire cargo of beef, pork, tongues, butter, and cheese, for England, and that the "adventure" will pay a profit.

WHO can rest comfortably on his bed on a cold winter's night, when, amidst the peltings of the pitiless storm, he hears, rising above it, the lowings of his wretched cattle and the lamentations of his swine!

Notices.

After an examination of the skeleton of the Mastodon at the Philadelphia Museum, we are prepared to say, in justice to our correspondent at page 146 of the present number of the Cabinet, the vertebræ of the spine are separated by blocks of wood precisely in the manner in which Dr. Goddard has accused Mr. Koch of having practised, to deceive spectators with regard to the real length of the animal which Mr. K. has chosen to call the Missourium Leviathan. Would the Dr. inform us if this addition to the Mastodon has been made for the same sinister purpose? The tusks of the Mastodon are ivory, as our correspondent describes them to be—not so, those of the Missourium, as every one who saw them can testify; and are we correct in presuming that space is wanting, as well as a proper *process* in the Missourium for a trunk—the horns occupying a situation which is quite incompatible with such a conformation. While on the spot, we employed ourself in imagining any other direction in which the horns or tusks of the Missourium could have been placed, but were constrained to agree with our correspondent, that "no other direction could have been given them than that which they exhibit," to say nothing of Mr. Koch's asseverations. We would therefore take leave to ask, are not these *distinctive differences* sufficient to prove that whatever else the animal might have been, it could not have been a Mastodon?

We are indebted to several friends for specimens of the finest vegetable productions, viz.—The Cooper Corn, and a sample of Mediterranean Wheat—which we are also inclined to believe will be found to be the "Tremois" of the French, a spring wheat which ripens in three months from the time of sowing, and hence its name—from Mr. Aaron Clement, of the Neck. Gourd-seed Corn of gigantic size, from Mr. John Reybold, of Delaware. A kind of Corn between the Gourd and Flint varieties, numbering 26 rows and 1352 grains on one cob, from Mr. Homer Eachus, of Delaware county, Penn. A remarkably productive kind of yellow Potatoe, superior to the Rohan, from Mr. Philip Reybold, Jr., of Delaware; and a Turnip of the red round species of Rutabaga, grown by Dr. Geo. Uhler, on his new farm in Delaware, which surpasses, for beauty and size, all others that we have seen.

Mr. Vansant is informed, the Poudrette Company of Philadelphia has not yet commenced business; many are the inquiries and great the expectations afloat on this highly important branch of business: why need Pennsylvania be behind the Eastern States in a matter so interwoven with her agricultural interests? In the mean time, the article may be obtained of Mr. D. K. Minor, Poudrette Company, New York, who would inform of terms, carriage, &c.

Mr. S. C. Allen, of Decatur, Illinois, is informed, the Straw and Hay Cutter sold by Slater, 398, Market Street, Philadelphia, is a most effective and powerful instrument, capable of cutting the stoutest corn-stalks, which, when soaked in a solution of salt and water, are greedily devoured by all kinds of cattle. It is called "Slater's Improved Straw and Hay Cutter," has two knives, and is propelled by hand or horse-power: price $35.

The scenery in our inimitable engraving of the "Old English Black Horse," in the present number, is taken from the county of Stafford, where these horses are bred in great numbers. The small building with a high chimney attached to the cottage is a general appendage in that country, where the male population are engaged in mining coal and iron, and the females in making nails—this being the female *work shop*, where nothing is more common than for the daughters to rise in the morning early enough to make a sufficient quantity of nails before breakfast to carry to the general store and exchange for articles to furnish out that meal.

A portion of our last month's edition was struck off with the following error: it is stated that Mr. Tonkin received $1,500 for his two fat oxen which were sold for exhibition—the price should be $3,500. The portraits of his present fat stock, seven in number, are in the hands of the painter, Mr. Woodside, and will appear in our pages as they are made ready for engraving.

The quantity of rain and melted snow which fell during November, (11th month,) was four inches and two hundred and twenty-four thousandths of an inch: nearly..... 4¼ inches.

And the quantity which has fallen during the eleven months of this year is a little more than fifty inches.

Pennsylvania Hospital, 12th mo. 1, 1841.

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